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DRINKING WATER SURVEILLANCE PROGRAM

DELHI WATER SUPPLY SYSTEM

ANNUAL REPORT 1990

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EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

DELHI WATER SUPPLY SYSTEM
1990 ANNUAL REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. In 1990, 76 systems were being monitored.

The Delhi water supply system has two sources of raw water, a conventional water treatment plant which treats water from the North Creek/Lehman Dam and a spring supply. The plant treatment process consists of coagulation, flocculation, sedimentation, filtration using pressure filters, fluoridation and disinfection. This plant has a rated capacity of 2.5 x 1000 m^3/day. The Delhi Spring source is an artesian spring which feeds a pond and flows into two concrete settling tanks where the water is disinfected, fluoridated and pumped into the distribution. The Delhi spring facility supplies about 25% of the total demand of the system. The Delhi water supply system serves a population of approximately 4,100.

Water at the treatment plant, the spring and two locations in the distribution system was sampled for the presence of approximately 180 parameters. Parameters were divided into the following groups: bacteriological, inorganic and physical (laboratory chemistry, field chemistry and metals), and organic (chloroaromatics, chlorophenols, pesticides and PCB, phenolics, polyaromatic hydrocarbons, specific pesticides and volatiles). Samples were analyzed for specific pesticides and chlorophenols twice a year in the spring and fall.

Table A (one for each source) is a summary of all results by group.

No known health related guidelines were exceeded.

The Delhi water treatment plant, for the sample year 1990, produced "adequate" quality water and this was maintained in the distribution system.

The source of trichloroethylene in the spring supply, is being investigated and continued monitoring of the supply is recommended.

TABLE A

DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP

SUMMARY TABLE BY SCAN

A POSITIVE VALUE DENOTES THAT THE RESULT IS GREATER THAN THE STATISTICAL LIMIT OF DETECTION AND IS QUANTIFIABLE

A '.' INDICATES THAT NO SAMPLE WAS TAKEN

SCAN	SITE RAW TESTS	POSITIVE	%POSITIVE	TREATED TESTS	POSITIVE	%POSITIVE	SITE 1 TESTS	POSITIVE	%POSITIVE
BACTERIOLOGICAL	30	20	66	10	7	70	9	6	66
CHEMISTRY (FLD)	18	18	100	54	54	100	70	68	97
CHEMISTRY (LAB)	220	195	88	219	183	83	323	294	91
METALS	240	99	41	240	89	37	391	161	41
CHLOROAROMATICS	140	0	0	140	0	0	112	0	0
CHLOROPHENOLS	12	0	0	12	0	0	.	.	.
PAH	168	0	0	168	0	0	.	.	.
PESTICIDES & PCB	342	0	0	342	0	0	170	0	0
PHENOLICS	10	1	10	10	2	20	.	.	.
SPECIFIC PESTICIDES	53	0	0	61	0	0	8	0	0
VOLATILES	261	4	1	290	31	10	261	29	11
TOTAL	1494	337		1546	366		1344	558	

TABLE A

DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY

SUMMARY TABLE BY SCAN

A POSITIVE VALUE DENOTES THAT THE RESULT IS GREATER THAN THE STATISTICAL LIMIT OF DETECTION AND IS QUANTIFIABLE
A '.' INDICATES THAT NO SAMPLE WAS TAKEN

SCAN	SITE RAW TESTS	POSITIVE	%POSITIVE	TREATED TESTS	POSITIVE	%POSITIVE	SITE 1 TESTS	POSITIVE	%POSITIVE
BACTERIOLOGICAL	30	23	76	10	6	60	10	5	50
CHEMISTRY (FLD)	18	18	100	44	44	100	95	88	92
CHEMISTRY (LAB)	220	174	79	220	170	77	361	319	88
METALS	240	70	29	240	75	31	437	206	47
CHLOROAROMATICS	140	0	0	140	0	0	140	0	0
CHLOROPHENOLS	12	0	0	12	0	0	.	.	.
PAH	168	0	0	168	0	0	17	0	0
PESTICIDES & PCB	342	0	0	329	0	0	212	0	0
PHENOLICS	10	1	10	10	0	0	.	.	.
SPECIFIC PESTICIDES	61	0	0	61	0	0	10	0	0
VOLATILES	290	15	5	290	52	17	261	36	13
TOTAL	1531	301		1524	347		1543	654	

DRINKING WATER SURVEILLANCE PROGRAM

DELHI SUPPLY SYSTEM
1990 ANNUAL REPORT

INTRODUCTION

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. In 1990, 76 systems were being monitored.

Appendix A has a full description of the DWSP.

The DWSP was initiated for the Delhi water plant in February of 1990. This is the first DWSP annual report.

PLANT DESCRIPTION

The Delhi water supply system is a combination of a spring supply and a conventional water treatment plant which treats water from the North Creek/Lehman Dam. The plant treatment process consists of coagulation, flocculation, sedimentation, filtration using pressure filters, fluoridation and disinfection. This plant has a rated capacity of 2.5 x 1000 m^3/day. The Delhi Spring source is an artesian spring which feeds a pond and flows into two concrete settling tanks where the water is disinfected, fluoridated and pumped into the distribution system. The Delhi spring facility supplies about 25% of the total demand of the system. The Delhi water supply system serves a population of approximately 4,100.

The sample day flows and chemical dosages were not regularly reported.

General plant information is presented in Table 1 and a schematic of plant processes, chemical addition points and sampling locations in Figure 1.

SAMPLING AND ANALYSES

Sample lines in the plant and at the spring were flushed prior to sampling to ensure that the water obtained was indicative of its origin and not residual water standing in the sample line.

At all distribution system locations two types of samples were obtained, a standing and a free flow. The standing sample consisted of water that had been in the household plumbing and service connection for a minimum of six hours. These samples were used to

make an assessment of the change in the levels of inorganic compounds and metals, due to leaching from, or deposition on, the plumbing system. The only analyses carried out on the standing samples therefore, were General Chemistry and Metals. The free flow sample represented fresh water from the distribution main, since the sample tap was flushed for five minutes prior to sampling.

Attempts were made to capture the same block of water at each sampling point by taking the retention time into consideration. Retention time was calculated by dividing the volume of water between two sampling points by sample day flow. For example, if it was determined that retention time within the plant was five hours, then there would be a five hour interval between the raw and treated sampling. Similarly, if it was estimated that it took approximately one day for the water to travel from the plant to the distribution system site, this site would be sampled one day after the treated water from the plant.

Stringent DWSP sampling protocols were followed to ensure that all samples were taken in a uniform manner (see Appendix B).

Plant operating personnel routinely analyze parameters for process control (Table 2).

Water at the plant, at the spring and at two locations in the distribution system was sampled for the presence of approximately 180 parameters. Parameters were divided into the following groups: bacteriological, inorganic and physical (laboratory chemistry, field chemistry and metals), and organic (chloroaromatics, chlorophenols, pesticides and PCB, phenolics, polyaromatic hydrocarbons, specific pesticides and volatiles). Samples were analyzed for specific pesticides and chlorophenols twice a year in the spring and fall. Laboratory analyses were conducted at the Ministry of the Environment facilities in Rexdale, Ontario.

RESULTS

Field measurements were recorded on the day of sampling and were entered onto the DWSP database as submitted by plant personnel.

Table 3 contains information on delay time between raw and treated water sampling, flow rate, and treatment chemical dosages.

Table 4 is a summary break-down of the number of water samples analyzed by parameter and by water type. The number of times that a positive or trace result was detected is also reported.

Positive denotes that the result is greater than the statistical limit of detection established by the Ministry of the Environment laboratory staff and is quantifiable. Trace (<T) denotes that the level measured is greater than the lowest value detectable by the

method but lies so close to the detection limit that it cannot be confidently quantified.

Table 5 presents the results for parameters detected on at least one occasion.

Table 6 lists all parameters analyzed in the DWSP.

Associated guidelines and detection limits are also supplied on Tables 5 and 6. Parameters are listed alphabetically within each scan.

DISCUSSION

GENERAL

Water quality was judged by comparison with the Ontario Drinking Water Objectives publication (ODWOs). When an Ontario Drinking Water Objective (ODWO) was not available, guidelines/limits from other agencies were used. These guidelines were obtained from the Parameter Listing System database.

IN THIS REPORT, DISCUSSION IS LIMITED TO:

- **THE TREATED AND DISTRIBUTED WATER;**
- **ONLY THOSE PARAMETERS WITH CONCENTRATIONS ABOVE GUIDELINE VALUES; AND**
- **POSITIVE ORGANIC PARAMETERS DETECTED.**

BACTERIOLOGICAL

Guidelines for bacteriological sampling and testing of a supply are developed to maintain a proper supervision of its bacteriological quality. Routine monitoring programs usually require that multiple samples be collected in a given system. Full interpretation of bacteriological quality cannot be made on the basis of single samples.

Standard plate count is a test used to supplement routine analysis for coliform bacteria. The limit for standard plate count (at 35°C after 48 hours) in the ODWOs is 500 counts/mL (based on a geometric mean of 5 or more samples). DWSP bacteriological analysis of treated and distributed water was limited to standard plate count, which may indicate some deterioration in water quality if the guideline of 500 counts/mL is exceeded.

Standard plate count (membrane filtration) exceeded the ODWO Maximum Desirable Concentration of 500 counts/mL in 5 of 10 plant treated water samples, 4 of 9 spring treated water samples and 2 of 17 distribution water samples with maximum reported values of 2.400 counts/mL.

INORGANIC & PHYSICAL

CHEMISTRY (FIELD)

It is desirable that the temperature of drinking water be less than 15°C. The palatability of water is enhanced by its coolness. A temperature below 15°C will tend to reduce the growth of nuisance organisms and hence minimize associated taste, colour, odour and corrosion problems. The temperature of the delivered water may increase in the distribution system due to the warming effect of the soil in late summer and fall and/or as a result of higher temperatures in the source water.

Field temperature exceeded the ODWO Maximum Desirable Concentration of 15°C in 8 of 36 treated and distributed water samples with a maximum reported value of 17.0°C.

CHEMISTRY (LAB)

Calcium exceeded the European Economic Community (EEC) Aesthetic Guideline Level of 100 mg/L in 1 of 9 distribution water samples with a reported value of 102.1 mg/L.

Colour in drinking water may be due to the presence of natural or synthetic substances as well as certain metallic ions.

Colour exceeded the ODWO Maximum Desirable Concentration of 5 HZU in 8 of 36 treated and distributed water samples with a maximum reported value of 8.0 HZU.

Elevated conductivity is often associated with high hardness levels.

Conductivity exceeded the EEC Aesthetic Guideline Level of 400 umho/cm in all 39 treated and distributed water samples with a maximum reported value of 724.0 umho/cm.

The ODWOs indicate that a hardness level of between 80 and 100 mg/L as calcium carbonate for domestic waters provides an acceptable balance between corrosion and encrustation. Water supplies with a hardness greater than 200 mg/L are considered poor and would possess a tendency to form scale deposits and result in excessive soap consumption.

Hardness exceeded the ODWO Aesthetic or Recommended Operational Guideline of 80-100 mg/L in all 39 treated and distributed water samples with a maximum reported value of 324.0 mg/L.

PH exceeded the ODWO Aesthetic or Recommended Operational Guideline of 6.5-8.5 pH units in 2 of 39 treated and distributed water samples with a maximum reported value of 8.54 pH units.

Turbidity in water is caused by the presence of suspended matter such as clay, silt, colloidal particles, plankton and other microscopic organisms. The most important potential health effect of turbidity is its interference with disinfection in the treatment plant and the maintenance of a chlorine residual. The ODWO Maximum Acceptable Concentration for turbidity is 1.0 Formazin Turbidity Units (FTU).

The laboratory turbidity exceeded Maximum Acceptable Concentration in 4 of 10 plant treated water samples with a maximum reported value of 2.4 FTU, but these values were not confirmed by the corresponding field turbidity results which were considered to be more reliable.

METALS

At present, there is no evidence that aluminum is physiologically harmful and no health limit for drinking water has been specified. The measure of aluminum in treated water is important to indicate the efficiency of the treatment process. The ODWOs indicate that a useful guideline is to maintain a residual below 100 ug/L as aluminum in the water leaving the plant, to avoid problems in the distribution system.

Aluminum exceeded the ODWO Aesthetic or Recommended Operational Guideline of 100 ug/L in 9 of 10 plant treated water samples with a maximum reported value of 530.0 ug/L and 9 of 19 distributed water samples with a maximum reported value of 350.0 ug/L.

Manganese, in high concentrations, can contribute to laundry staining and undesirable tastes.

ORGANIC

CHLOROAROMATICS

The results of the chloroaromatic scan showed that one parameter was detected at a trace level in one plant treated water sample.

CHLOROPHENOLS

The results of the chlorophenol scan showed that none were detected.

POLYAROMATIC HYDROCARBONS (PAH)

The results of the PAH scan showed that none were detected.

PESTICIDES & PCB

The results of the PCB scan showed that none were detected.

The results of the regular pesticide scan showed that none were detected above trace levels.

PHENOLICS

Phenolic compounds are present in the aquatic environment as a result of natural and/or industrial processes. The ODWOs recommend, as an operational guideline, that phenolic substances in drinking water not exceed 2.0 ug/L. This limit has been set primarily to prevent undesirable taste and odours, particularly in chlorinated water. No results exceeded the guideline.

SPECIFIC PESTICIDES

The results of the specific pesticides scan showed that none were detected.

VOLATILES

1,1,1-Trichloroethane was detected at positive levels in 2 of 10 spring treated water samples and 2 of 18 distribution samples with a maximum reported value of 0.22 ug/L. All raw and treated water samples from the spring contained trace or positive levels of 1,1,1-trichloroethane. The United States Environmental Protection Agency has a Maximum Contaminant Level of 200 ug/L.

Trichloroethylene was found at positive levels in spring raw and treated water samples ranging from 13.3 ug/L to 23.9 ug/L. Trichloroethylene was also detected at positive levels in 4 of 18 distributed water samples with a maximum reported value of 21.9 ug/L. These were below the ODWO Maximum Acceptable Concentration of 50 ug/L. The Ministry of the Environment and the Municipality are actively investigating the possible source of the trichloroethylene contamination.

Other volatile organic parameters were detected occasionally at trace levels in the spring supply.

The detection of benzene, ethylbenzene, toluene and xylenes at low, trace levels may be a laboratory artifact derived from the analytical methodology.

Trihalomethanes (THMs) are produced during the water treatment process and will always occur in surface waters. THMs are comprised of chloroform, chlorodibromomethane and dichlorobromomethane; bromoform occurs occasionally. Results are reported for the individual compounds as well as for total THMs. Only total THMs results are discussed.

Total THMs were found at positive levels in all plant treated water samples to a maximum of 105.6 ug/L and in all spring treated water samples to a maximum 42.9 ug/L. THMs were detected in all 16 distributed water samples and ranged from 25.0 ug/L to 116.7 ug/L. This was below the ODWO Maximum Acceptable Concentration of 350 ug/L.

THMs were detected at trace levels in 8 of 10 raw water samples at the spring supply indicating that some chlorine is backmixing close to the raw water sample location.

CONCLUSIONS

The sample locations in the distribution were influenced to a greater or lessor extent by both sources of supply, probably due to variations in flow patterns.

The Delhi water treatment plant, for the sample year 1990, produced "acceptable" quality water and this was maintained in the distribution system.

No known health related guidelines were exceeded.

The source of trichloroethylene, in the spring supply is being investigated and continued monitoring of the supply is recommended.

TABLE 1

DRINKING WATER SURVEILLANCE PROGRAM

PLANT GENERAL REPORT

WORKS #: 220000415
PLANT NAME: DELHI WTP

DISTRICT: HAMILTON
REGION: WEST CENTRAL
DISTRICT OFFICER :J. VOGT

UTM #: 175398704744300

PLANT SUPERINTENDENT: JAMES WALKER

ADDRESS: WILLIAM STREET
DELHI,ONTARIO
N4B
(519- 582-2490)

MUNICIPALITY: HALDIMAND-NORFOLK REGION
AUTHORITY: MUNICIPAL

PLANT INFORMATION

PLANT VOLUME:	.278	(X 1000 M3)
DESIGN CAPACITY:	4.543	(X 1000 M3/DAY)
RATED CAPACITY:	2.473	(X 1000 M3/DAY)

MUNICIPALITY	POPULATION
DELHI	4,100

TABLE 3

DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP SAMPLE DAY CONDITIONS FOR 1990

			TREATMENT CHEMICAL DOSAGE MG/L			
			PRE CHLORINATION	COAGULATION	FLUORIDATION	POST CHLORINATION
ATE	DELAY * TIME(HRS)	FLOW (1000M3)	CHLORINE	POLY ALUMINUM CHLORIDE	HYDROFLUOSILICIC ACID	CHLORINE
AR 07	.50	.000	2.38	4.44	1.36	.99
PR 03	.00	.000	1.58	3.24	.	1.02
AY 07	.00	.000	2.14	4.74	.	1.03
UN 04	.00	.000	3.13	5.45	1.14	1.78
UL 04	.00	.000	3.53	6.94	1.24	1.34
UG 07	.50	.000	3.20	7.36	1.26	1.42
EP 05	.00	1.464	3.06	6.55	1.21	1.30
CT 02	.00	.000	3.68	8.37	1.25	1.22
OV 06	.00	.000	3.68	9.10	1.25	1.33
EC 04	.00	.000	3.27	7.52	.97	.95

* THE DELAY TIME BETWEEN THE RAW AND TREATED WATER SAMPLING, SHOULD ESTIMATE THE RETENTION TIME.

TABLE 3

DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY SAMPLE DAY CONDITIONS FOR 1990

			TREATMENT CHEMICAL DOSAGE MG/L	
			PRE CHLORINATION	FLUORIDATION
DATE	DELAY * TIME(HRS)	FLOW (1000M3)	CHLORINE	HYDROFLUOSILICIC ACID
MAY 07	.00	.000	1.43	
JUN 05	.00	.000	1.62	1.55
JUL 04	.00	.000	1.84	1.54
AUG 07	.00	.000	1.63	.89
SEP 05	.00	.419	2.04	1.59
OCT 02	.00	.000	2.13	1.96
NOV 06	.00	.000	1.96	1.79
DEC 04	.00	.000	1.63	1.37

* THE DELAY TIME BETWEEN THE RAW AND TREATED WATER SAMPLING, SHOULD ESTIMATE THE RETENTION TIME.

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP
SUMMARY TABLE OF RESULTS (1990)

SCAN PARAMETER	RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE
BACTERIOLOGICAL									
FECAL COLIFORM MF	10	8	0	.	.	.	.	.	.
STANDRD PLATE CNT MF	.	.	.	10	7	0	9	6	0
TOTAL COLIFORM MF	10	4	0	.	.	.	.	.	.
T COLIFORM BCKGRD MF	10	8	0	.	.	.	.	.	.
*TOTAL GROUP BACTERIOLOGICAL	30	20	0	10	7	0	9	6	0
CHEMISTRY (FLD)									
FLD CHLORINE (COMB)	.	.	.	9	9	0	14	12	0
FLD CHLORINE FREE	.	.	.	9	9	0	14	14	0
FLD CHLORINE (TOTAL)	.	.	.	9	9	0	14	14	0
FLD PH	9	9	0	9	9	0	14	14	0
FLD TEMPERATURE	9	9	0	9	9	0	14	14	0
FLD TURBIDITY	.	.	.	9	9	0	.	.	.
*TOTAL SCAN CHEMISTRY (FLD)	18	18	0	54	54	0	70	68	0
CHEMISTRY (LAB)									
ALKALINITY	10	10	0	10	10	0	17	17	0
CALCIUM	10	10	0	10	10	0	17	17	0
CYANIDE	10	0	0	9	0	0	.	.	.
CHLORIDE	10	10	0	10	10	0	17	17	0
COLOUR	10	9	1	10	10	0	17	13	4
CONDUCTIVITY	10	10	0	10	10	0	17	17	0
DISS ORG CARBON	10	10	0	10	10	0	17	17	0
FLUORIDE	10	10	0	10	10	0	17	17	0
HARDNESS	10	10	0	10	10	0	17	17	0
IONCAL	10	10	0	10	10	0	17	17	0
LANGELIERS INDEX	10	10	0	10	10	0	17	17	0
MAGNESIUM	10	10	0	10	10	0	17	17	0
SODIUM	10	10	0	10	10	0	17	17	0
AMMONIUM TOTAL	10	5	3	10	1	3	17	3	5
NITRITE	10	9	1	10	4	4	17	7	8
TOTAL NITRATES	10	10	0	10	10	0	17	17	0
NITROGEN TOT KJELD	10	10	0	10	10	0	17	17	0
PH	10	10	0	10	10	0	17	17	0
PHOSPHORUS FIL REACT	10	5	5	10	4	4	.	.	.
PHOSPHORUS TOTAL	10	7	3	10	4	6	.	.	.
SULPHATE	10	10	0	10	10	0	17	17	0
TURBIDITY	10	10	0	10	10	0	17	16	1
*TOTAL SCAN CHEMISTRY (LAB)	220	195	13	219	183	17	323	294	18

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP
SUMMARY TABLE OF RESULTS (1990)

SCAN PARAMETER	RAW			TREATED			SITE 1		
	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
METALS									
SILVER	10	0	0	10	0	0	17	0	0
ALUMINUM	10	10	0	10	10	0	17	17	0
ARSENIC	10	0	10	10	0	10	17	0	15
BARIUM	10	10	0	10	10	0	17	17	0
BORON	10	6	4	10	5	5	17	13	4
BERYLLIUM	10	0	0	10	0	2	17	0	2
CADMIUM	10	0	0	10	0	0	17	0	2
COBALT	10	0	8	10	0	5	17	0	10
CHROMIUM	10	0	6	10	0	5	17	2	10
COPPER	10	1	9	10	0	10	17	8	7
IRON	10	9	0	10	2	8	17	5	8
MERCURY	10	0	2	10	0	1	.	.	.
MANGANESE	10	10	0	10	10	0	17	17	0
MOLYBDENUM	10	9	1	10	9	1	17	11	6
NICKEL	10	1	3	10	1	3	17	2	6
LEAD	10	1	9	10	3	6	17	4	13
ANTIMONY	10	0	10	10	0	10	17	0	17
SELENIUM	10	0	2	10	0	2	17	0	9
STRONTIUM	10	10	0	10	10	0	17	17	0
TITANIUM	10	10	0	10	10	0	17	17	0
THALLIUM	10	0	0	10	0	0	17	0	1
URANIUM	10	10	0	10	10	0	17	15	2
VANADIUM	10	2	8	10	0	9	17	1	14
ZINC	10	10	0	10	9	1	17	15	2
*TOTAL SCAN METALS	240	99	72	240	89	78	391	161	128
*TOTAL GROUP INORGANIC & PHYSICAL	478	312	85	513	326	95	784	523	146
CHLOROAROMATICS									
HEXACHLOROBUTADIENE	10	0	0	10	0	0	8	0	0
123 TRICHLOROBENZENE	10	0	0	10	0	0	8	0	0
1234 T-CHLOROBENZENE	10	0	0	10	0	0	8	0	0
1235 T-CHLOROBENZENE	10	0	0	10	0	0	8	0	0
124 TRICHLOROBENZENE	10	0	0	10	0	0	8	0	0
1245 T-CHLOROBENZENE	10	0	0	10	0	0	8	0	0
135 TRICHLOROBENZENE	10	0	0	10	0	0	8	0	0
HCB	10	0	0	10	0	0	8	0	0
HEXACHLOROETHANE	10	0	0	10	0	0	8	0	0
OCTACHLOROSTYRENE	10	0	0	10	0	0	8	0	0
PENTACHLOROBENZENE	10	0	0	10	0	0	8	0	0
236 TRICHLOROTOLUENE	10	0	0	10	0	1	8	0	0
245 TRICHLOROTOLUENE	10	0	0	10	0	0	8	0	0
26A TRICHLOROTOLUENE	10	0	0	10	0	0	8	0	0
*TOTAL SCAN CHLOROAROMATICS	140	0	0	140	0	1	112	0	0

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP
SUMMARY TABLE OF RESULTS (1990)

SCAN PARAMETER	RAW			TREATED			SITE 1		
	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
CHLOROPHENOLS									
234 TRICHLOROPHENOL	2	0	0	2	0	0	.	.	.
2345 T-CHLOROPHENOL	2	0	0	2	0	0	.	.	.
2356 T-CHLOROPHENOL	2	0	0	2	0	0	.	.	.
245-TRICHLOROPHENOL	2	0	0	2	0	0	.	.	.
246-TRICHLOROPHENOL	2	0	0	2	0	0	.	.	.
PENTACHLOROPHENOL	2	0	0	2	0	0	.	.	.
*TOTAL SCAN CHLOROPHENOLS	12	0	0	12	0	0	0	0	0
PAH									
PHENANTHRENE	10	0	0	10	0	0	.	.	.
ANTHRACENE	9	0	0	9	0	0	.	.	.
FLUORANTHENE	10	0	0	10	0	0	.	.	.
PYRENE	10	0	0	10	0	0	.	.	.
BENZO(A)ANTHRACENE	10	0	0	10	0	0	.	.	.
CHRYSENE	10	0	0	10	0	0	.	.	.
DIMETH. BENZ(A)ANTHR	9	0	0	9	0	0	.	.	.
BENZO(E) PYRENE	10	0	0	10	0	0	.	.	.
BENZO(B) FLUORANTHEN	10	0	0	10	0	0	.	.	.
PERYLENE	10	0	0	10	0	0	.	.	.
BENZO(K) FLUORANTHEN	10	0	0	10	0	0	.	.	.
BENZO(A) PYRENE	10	0	0	10	0	0	.	.	.
BENZO(G,H,I) PERYLEN	10	0	0	10	0	0	.	.	.
DIBENZO(A,H) ANTHRAC	10	0	0	10	0	0	.	.	.
INDENO(1,2,3-C,D) PY	10	0	0	10	0	0	.	.	.
BENZO(B) CHRYSENE	10	0	0	10	0	0	.	.	.
CORONENE	10	0	0	10	0	0	.	.	.
*TOTAL SCAN PAH	168	0	0	168	0	0	0	0	0
PESTICIDES & PCB									
ALDRIN	10	0	0	10	0	0	8	0	0
ALPHA BHC	10	0	0	10	0	0	8	0	0
BETA BHC	10	0	0	10	0	0	8	0	0
LINDANE	10	0	0	10	0	0	8	0	0
ALPHA CHLORDANE	10	0	0	10	0	0	8	0	0
GAMMA CHLORDANE	10	0	0	10	0	0	8	0	0
DIELDRIN	10	0	0	10	0	0	8	0	0
METHOXYCHLOR	10	0	0	10	0	0	8	0	0
ENDOSULFAN I	10	0	0	10	0	0	8	0	0
ENDOSULFAN II	10	0	0	10	0	0	8	0	0
ENDRIN	10	0	0	10	0	0	8	0	0
ENDOSULFAN SULPHATE	10	0	0	10	0	0	8	0	0
HEPTACHLOR EPOXIDE	10	0	0	10	0	0	8	0	0
HEPTACHLOR	10	0	0	10	0	0	8	0	0
MIREX	10	0	0	10	0	0	8	0	0
OXYCHLORDANE	10	0	0	10	0	0	8	0	0
OPDDT	10	0	0	10	0	0	8	0	0
PCB	10	0	0	10	0	0	8	0	0
DDD	10	0	0	10	0	0	8	0	0
PPDDE	10	0	0	10	0	0	8	0	0

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP
SUMMARY TABLE OF RESULTS (1990)

SCAN PARAMETER	RAW			TREATED			SITE 1		
	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
PPDDT	10	0	0	10	0	0	8	0	0
AMETRINE	10	0	0	10	0	0	.	.	.
ATRAZINE	10	0	3	10	0	3	.	.	.
ATRATONE	10	0	0	10	0	0	.	.	.
CYANAZINE (BLADEX)	10	0	0	10	0	0	.	.	.
DESETHYLATRAZINE	10	0	0	10	0	0	.	.	.
D-ETHYL SIMAZINE	10	0	0	10	0	0	.	.	.
PROMETONE	10	0	0	10	0	0	.	.	.
PROPAZINE	10	0	0	10	0	0	.	.	.
PROMETRYNE	10	0	0	10	0	0	.	.	.
METRIBUZIN (SENCOR)	10	0	0	10	0	0	.	.	.
SIMAZINE	10	0	0	10	0	0	.	.	.
ALACHLOR (LASSO)	10	0	0	10	0	0	.	.	.
METOLACHLOR	10	0	0	10	0	0	.	.	.
HEXACLCYCLOPENTADIEN	2	0	0	2	0	0	2	0	0
*TOTAL SCAN PESTICIDES & PCB	342	0	3	342	0	3	170	0	0
PHENOLICS									
PHENOLICS	10	1	5	10	2	7	.	.	.
*TOTAL SCAN PHENOLICS	10	1	5	10	2	7	0	0	0
SPECIFIC PESTICIDES									
TOXAPHENE	10	0	0	10	0	0	8	0	0
2,4,5-T	2	0	0	2	0	0	.	.	.
2,4-D	2	0	0	2	0	0	.	.	.
2,4-DB	2	0	0	2	0	0	.	.	.
2,4 D PROPIONIC ACID	2	0	0	2	0	0	.	.	.
DICAMBA	2	0	0	2	0	0	.	.	.
PICHLORAM	0	0	0	0	0	0	.	.	.
SILVEX	2	0	0	2	0	0	.	.	.
DIAZINON	2	0	0	2	0	0	.	.	.
DICHLOROVOS	2	0	0	2	0	0	.	.	.
CHLORPYRIFOS	2	0	0	2	0	0	.	.	.
ETHION	2	0	0	2	0	0	.	.	.
AZINPHOS-METHYL	0	0	0	0	0	0	.	.	.
MALATHION	2	0	0	2	0	0	.	.	.
MEVINPHOS	2	0	0	2	0	0	.	.	.
METHYL PARATHION	2	0	0	2	0	0	.	.	.
METHYLTRITHION	2	0	0	2	0	0	.	.	.
PARATHION	2	0	0	2	0	0	.	.	.
PHORATE	1	0	0	1	0	0	.	.	.
RELDAN	2	0	0	2	0	0	.	.	.
RONNEL	2	0	0	2	0	0	.	.	.
AMINOCARB	0	0	0	0	0	0	.	.	.
BENONYL	0	0	0	0	0	0	.	.	.
BUX	0	0	0	0	0	0	.	.	.
CARBOFURAN	1	0	0	2	0	0	.	.	.
CICP	1	0	0	2	0	0	.	.	.
DIALLATE	1	0	0	2	0	0	.	.	.

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP
SUMMARY TABLE OF RESULTS (1990)

SCAN PARAMETER	RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE
EPTAM	1	0	0	2	0	0	.	.	.
IPC	1	0	0	2	0	0	.	.	.
PROPOXUR	1	0	0	2	0	0	.	.	.
CARBARYL	1	0	0	2	0	0	.	.	.
BUTYLATE	1	0	0	2	0	0	.	.	.
*TOTAL SCAN SPECIFIC PESTICIDES	53	0	0	61	0	0	8	0	0
VOLATILES									
BENZENE	9	0	0	10	0	1	9	0	2
TOLUENE	9	0	0	10	0	4	9	0	1
ETHYLBENZENE	9	0	1	10	0	6	9	0	4
P-XYLENE	9	0	0	10	0	0	9	0	0
M-XYLENE	9	0	0	10	0	0	9	0	0
O-XYLENE	9	0	0	10	0	0	9	0	1
STYRENE	9	0	0	10	0	6	9	0	4
1,1 DICHLOROETHYLENE	9	0	0	10	0	0	9	0	0
METHYLENE CHLORIDE	9	0	0	10	0	0	9	0	0
T1,2DICHLOROETHYLENE	9	0	0	10	0	0	9	0	1
1,1 DICHLOROETHANE	9	0	0	10	0	0	9	0	0
CHLOROFORM	9	1	0	10	10	0	9	8	0
111, TRICHLOROETHANE	9	0	0	10	0	0	9	1	2
1,2 DICHLOROETHANE	9	0	0	10	0	0	9	0	0
CARBON TETRACHLORIDE	9	0	0	10	0	0	9	0	0
1,2 DICHLOROPROPANE	9	0	0	10	0	0	9	0	0
TRICHLOROETHYLENE	9	0	1	10	0	0	9	2	0
DICHLOROBROMOMETHANE	9	1	0	10	10	0	9	8	0
112 TRICHLOROETHANE	9	0	0	10	0	0	9	0	0
CHLORODIBROMOMETHANE	9	1	0	10	1	9	9	2	6
T-CHLOROETHYLENE	9	0	1	10	0	0	9	0	2
BROMOFORM	9	0	0	10	0	0	9	0	2
1122 T-CHLOROETHANE	9	0	0	10	0	0	9	0	0
CHLOROBENZENE	9	0	0	10	0	0	9	0	0
1,4 DICHLOROBENZENE	9	0	0	10	0	0	9	0	0
1,3 DICHLOROBENZENE	9	0	0	10	0	0	9	0	0
1,2 DICHLOROBENZENE	9	0	0	10	0	0	9	0	0
ETHLYENE DIBROMIDE	9	0	0	10	0	0	9	0	0
TOTL TRIHALOMETHANES	9	1	0	10	10	0	9	8	0
*TOTAL SCAN VOLATILES	261	4	3	290	31	26	261	29	25
*TOTAL GROUP ORGANIC	986	5	11	1023	33	37	551	29	25

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY
SUMMARY TABLE OF RESULTS (1990)

SCAN PARAMETER	RAW			TREATED			SITE 1		
	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
BACTERIOLOGICAL									
FECAL COLIFORM MF	10	6	0	.	.	.	.	.	.
STANDRD PLATE CNT MF	.	.	.	10	6	0	10	5	0
TOTAL COLIFORM MF	10	8	0	.	.	.	.	.	.
T COLIFORM BCKGRD MF	10	9	0	.	.	.	.	.	.
*TOTAL GROUP BACTERIOLOGICAL	30	23	0	10	6	0	10	5	0
CHEMISTRY (FLD)									
FLD CHLORINE (COMB)	.	.	.	8	8	0	19	12	0
FLD CHLORINE FREE	.	.	.	9	9	0	19	19	0
FLD CHLORINE (TOTAL)	.	.	.	9	9	0	19	19	0
FLD PH	9	9	0	9	9	0	19	19	0
FLD TEMPERATURE	9	9	0	9	9	0	19	19	0
*TOTAL SCAN CHEMISTRY (FLD)	18	18	0	44	44	0	95	88	0
CHEMISTRY (LAB)									
ALKALINITY	10	10	0	10	10	0	19	19	0
CALCIUM	10	10	0	10	10	0	19	19	0
CYANIDE	10	0	0	10	0	0	.	.	.
CHLORIDE	10	10	0	10	10	0	19	19	0
COLOUR	10	1	8	10	0	6	19	10	7
CONDUCTIVITY	10	10	0	10	10	0	19	19	0
DISS ORG CARBON	10	10	0	10	10	0	19	19	0
FLUORIDE	10	8	2	10	10	0	19	19	0
HARDNESS	10	10	0	10	10	0	19	19	0
IONCAL	10	10	0	10	10	0	19	19	0
LANGELIERS INDEX	10	10	0	10	10	0	19	19	0
MAGNESIUM	10	10	0	10	10	0	19	19	0
SODIUM	10	10	0	10	10	0	19	19	0
AMMONIUM TOTAL	10	5	3	10	0	2	19	2	6
NITRITE	10	10	0	10	2	2	19	6	7
TOTAL NITRATES	10	10	0	10	10	0	19	19	0
NITROGEN TOT KJELD	10	10	0	10	8	2	19	18	1
PH	10	10	0	10	10	0	19	19	0
PHOSPHORUS FIL REACT	10	0	3	10	7	2	.	.	.
PHOSPHORUS TOTAL	10	0	5	10	3	6	.	.	.
SULPHATE	10	10	0	10	10	0	19	19	0
TURBIDITY	10	10	0	10	10	0	19	17	2
*TOTAL SCAN CHEMISTRY (LAB)	220	174	21	220	170	20	361	319	23

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY
SUMMARY TABLE OF RESULTS (1990)

SCAN PARAMETER	RAW			TREATED			SITE 1		
	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
METALS									
SILVER	10	0	0	10	0	0	19	0	0
ALUMINUM	10	10	0	10	10	0	19	19	0
ARSENIC	10	0	3	10	1	5	19	1	16
BARIUM	10	10	0	10	10	0	19	19	0
BORON	10	9	1	10	10	0	19	16	3
BERYLLIUM	10	0	2	10	0	3	19	0	6
CADMIUM	10	0	0	10	1	0	19	0	2
COBALT	10	0	3	10	0	4	19	0	13
CHROMIUM	10	0	9	10	1	8	19	6	8
COPPER	10	0	10	10	0	10	19	19	0
IRON	10	0	0	10	0	0	19	1	11
MERCURY	10	0	1	10	1	1	.	.	.
MANGANESE	10	10	0	10	10	0	19	19	0
MOLYBDENUM	10	0	9	10	0	9	19	10	9
NICKEL	10	1	2	10	1	1	19	3	7
LEAD	10	0	6	10	0	9	19	13	6
ANTIMONY	10	1	9	10	1	9	19	8	11
SELENIUM	10	0	9	10	0	9	19	0	13
STRONTIUM	10	10	0	10	10	0	19	19	0
TITANIUM	10	10	0	10	10	0	19	19	0
THALLIUM	10	0	0	10	0	0	19	0	1
URANIUM	10	0	10	10	0	10	19	14	5
VANADIUM	10	1	7	10	1	7	19	1	18
ZINC	10	8	2	10	8	2	19	19	0
*TOTAL SCAN METALS	240	70	83	240	75	87	437	206	129
*TOTAL GROUP INORGANIC & PHYSICAL	478	262	104	504	289	107	893	613	152
CHLOROAROMATICS									
HEXACHLOROBUTADIENE	10	0	0	10	0	0	10	0	0
123 TRICHLOROBENZENE	10	0	0	10	0	0	10	0	0
1234 T-CHLOROBENZENE	10	0	0	10	0	0	10	0	0
1235 T-CHLOROBENZENE	10	0	0	10	0	0	10	0	0
124 TRICHLOROBENZENE	10	0	0	10	0	0	10	0	0
1245 T-CHLOROBENZENE	10	0	0	10	0	0	10	0	0
135 TRICHLOROBENZENE	10	0	0	10	0	0	10	0	0
HCB	10	0	0	10	0	0	10	0	0
HEXACHLOROETHANE	10	0	0	10	0	0	10	0	0
OCTACHLOROSTYRENE	10	0	0	10	0	0	10	0	0
PENTACHLOROBENZENE	10	0	0	10	0	0	10	0	0
236 TRICHLOROTOLUENE	10	0	0	10	0	0	10	0	0
245 TRICHLOROTOLUENE	10	0	0	10	0	0	10	0	0
26A TRICHLOROTOLUENE	10	0	0	10	0	0	10	0	0
*TOTAL SCAN CHLOROAROMATICS	140	0	0	140	0	0	140	0	0

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY
SUMMARY TABLE OF RESULTS (1990)

SCAN	RAW			TREATED			SITE 1		
PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
CHLOROPHENOLS									
234 TRICHLOROPHENOL	2	0	0	2	0	0	.	.	.
2345 T-CHLOROPHENOL	2	0	0	2	0	0	.	.	.
2356 T-CHLOROPHENOL	2	0	0	2	0	0	.	.	.
245-TRICHLOROPHENOL	2	0	0	2	0	0	.	.	.
246-TRICHLOROPHENOL	2	0	0	2	0	0	.	.	.
PENTACHLOROPHENOL	2	0	0	2	0	0	.	.	.
*TOTAL SCAN CHLOROPHENOLS	12	0	0	12	0	0	0	0	0
PAH									
PHENANTHRENE	10	0	0	10	0	0	1	0	0
ANTHRACENE	9	0	0	9	0	0	1	0	0
FLUORANTHENE	10	0	0	10	0	0	1	0	0
PYRENE	10	0	0	10	0	0	1	0	0
BENZO(A)ANTHRACENE	10	0	0	10	0	0	1	0	0
CHRYSENE	10	0	0	10	0	0	1	0	0
DIMETH. BENZ(A)ANTHR	9	0	0	9	0	0	1	0	0
BENZO(E) PYRENE	10	0	0	10	0	0	1	0	0
BENZO(B) FLUORANTHEN	10	0	0	10	0	0	1	0	0
PERYLENE	10	0	0	10	0	0	1	0	0
BENZO(K) FLUORANTHEN	10	0	0	10	0	0	1	0	0
BENZO(A) PYRENE	10	0	0	10	0	0	1	0	0
BENZO(G,H,I) PERYLEN	10	0	0	10	0	0	1	0	0
DIBENZO(A,H) ANTHRAC	10	0	0	10	0	0	1	0	0
INDENO(1,2,3-C,D).PY	10	0	0	10	0	0	1	0	0
BENZO(B) CHRYSENE	10	0	0	10	0	0	1	0	0
CORONENE	10	0	0	10	0	0	1	0	0
*TOTAL SCAN PAH	168	0	0	168	0	0	17	0	0
PESTICIDES & PCB									
ALDRIN	10	0	0	10	0	0	10	0	0
ALPHA BHC	10	0	0	10	0	0	10	0	0
BETA BHC	10	0	0	10	0	0	10	0	0
LINDANE	10	0	0	10	0	0	10	0	0
ALPHA CHLORDANE	10	0	0	10	0	0	10	0	0
GAMMA CHLORDANE	10	0	0	10	0	0	10	0	0
DIELDRIN	10	0	0	10	0	0	10	0	0
METHOXYCHLOR	10	0	0	10	0	0	10	0	0
ENDOSULFAN 1	10	0	0	10	0	0	10	0	0
ENDOSULFAN II	10	0	0	10	0	0	10	0	0
ENDRIN	10	0	0	10	0	0	10	0	0
ENDOSULFAN SULPHATE	10	0	0	10	0	0	10	0	0
HEPTACHLOR EPOXIDE	10	0	0	10	0	0	10	0	0
HEPTACHLOR	10	0	0	10	0	0	10	0	0
MIREX	10	0	0	10	0	0	10	0	0
OXYCHLORDANE	10	0	0	10	0	0	10	0	0
OPDDT	10	0	0	10	0	0	10	0	0
PCB	10	0	0	10	0	0	10	0	0
DDD	10	0	0	10	0	0	10	0	0
PPDDE	10	0	0	10	0	0	10	0	0

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY
SUMMARY TABLE OF RESULTS (1990)

SCAN PARAMETER	RAW			TREATED			SITE 1		
	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
PPDDT	10	0	0	10	0	0	10	0	0
AMETRINE	10	0	0	9	0	0	.	.	.
ATRAZINE	10	0	1	9	0	1	.	.	.
ATRATONE	10	0	0	9	0	0	.	.	.
CYANAZINE (BLADEX)	10	0	0	9	0	0	.	.	.
DESETHYLATRAZINE	10	0	0	9	0	0	.	.	.
D-ETHYL SIMAZINE	10	0	0	9	0	0	.	.	.
PROMETONE	10	0	0	9	0	0	.	.	.
PROPAZINE	10	0	0	9	0	0	.	.	.
PROMETRYNE	10	0	0	9	0	0	.	.	.
METRIBUZIN (SENCOR)	10	0	0	9	0	0	.	.	.
SIMAZINE	10	0	0	9	0	0	.	.	.
ALACHLOR (LASSO)	10	0	0	9	0	0	.	.	.
METOLACHLOR	10	0	0	9	0	0	.	.	.
HEXACLCYCLOPENTADIEN	2	0	0	2	0	0	2	0	0
*TOTAL SCAN PESTICIDES & PCB	342	0	1	329	0	1	212	0	0
PHENOLICS									
PHENOLICS	10	1	5	10	0	2	.	.	.
*TOTAL SCAN PHENOLICS	10	1	5	10	0	2	0	0	0
SPECIFIC PESTICIDES									
TOXAPHENE	10	0	0	10	0	0	10	0	0
2,4,5-T	2	0	0	2	0	0	.	.	.
2,4-D	2	0	0	2	0	0	.	.	.
2,4-DB	2	0	0	2	0	0	.	.	.
2,4 D PROPIONIC ACID	2	0	0	2	0	0	.	.	.
DICAMBA	2	0	0	2	0	0	.	.	.
PICHLORAM	0	0	0	0	0	0	.	.	.
SILVEX	2	0	0	2	0	0	.	.	.
DIAZINON	2	0	0	2	0	0	.	.	.
DICHLOROVOS	2	0	0	2	0	0	.	.	.
CHLORPYRIFOS	2	0	0	2	0	0	.	.	.
ETHION	2	0	0	2	0	0	.	.	.
AZINPHOS-METHYL	0	0	0	0	0	0	.	.	.
MALATHION	2	0	0	2	0	0	.	.	.
MEVINPHOS	2	0	0	2	0	0	.	.	.
METHYL PARATHION	2	0	0	2	0	0	.	.	.
METHYLTRITHION	2	0	0	2	0	0	.	.	.
PARATHION	2	0	0	2	0	0	.	.	.
PHORATE	1	0	0	1	0	0	.	.	.
RELDAN	2	0	0	2	0	0	.	.	.
RONNEL	2	0	0	2	0	0	.	.	.
AMINOCARB	0	0	0	0	0	0	.	.	.
BENOMYL	0	0	0	0	0	0	.	.	.
BUX	0	0	0	0	0	0	.	.	.
CARBOFURAN	2	0	0	2	0	0	.	.	.
CICP	2	0	0	2	0	0	.	.	.
DIALLATE	2	0	0	2	0	0	.	.	.

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM DELNI SPRING SUPPLY
SUMMARY TABLE OF RESULTS (1990)

SCAN PARAMETER	RAW			TREATED			SITE 1		
	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
EPTAM	2	0	0	2	0	0	.	.	.
IPC	2	0	0	2	0	0	.	.	.
PROPOXUR	2	0	0	2	0	0	.	.	.
CARBARYL	2	0	0	2	0	0	.	.	.
BUTYLATE	2	0	0	2	0	0	.	.	.
*TOTAL SCAN SPECIFIC PESTICIDES	61	0	0	61	0	0	10	0	0
VOLATILES									
BENZENE	10	0	0	10	0	4	9	0	1
TOLUENE	10	0	0	10	0	0	9	0	2
ETHYLBENZENE	10	0	5	10	0	7	9	0	4
P-XYLENE	10	0	0	10	0	0	9	0	0
M-XYLENE	10	0	0	10	0	0	9	0	0
O-XYLENE	10	0	0	10	0	0	9	0	0
STYRENE	10	0	7	10	0	1	9	0	3
1,1 DICHLOROETHYLENE	10	0	0	10	0	0	9	0	0
METHYLENE CHLORIDE	10	0	0	10	0	0	9	0	0
T1,2DICHLOROETHYLENE	10	0	1	10	0	2	9	0	1
1,1 DICHLOROETHANE	10	0	0	10	0	0	9	0	0
CHLOROFORM	10	4	6	10	10	0	9	9	0
111, TRICHLOROETHANE	10	2	8	10	2	8	9	1	2
1,2 DICHLOROETHANE	10	0	0	10	0	0	9	0	0
CARBON TETRACHLORIDE	10	0	0	10	0	0	9	0	0
1,2 DICHLOROPROPANE	10	0	0	10	0	0	9	0	0
TRICHLOROETHYLENE	10	9	0	10	10	0	9	4	5
DICHLOROBROMOMETHANE	10	0	9	10	10	0	9	9	0
112 TRICHLOROETHANE	10	0	0	10	0	1	9	0	0
CHLORODIBROMOMETHANE	10	0	1	10	10	0	9	4	5
T-CHLOROETHYLENE	10	0	9	10	0	10	9	0	5
BROMOFORM	10	0	0	10	0	10	9	0	4
1122 T-CHLOROETHANE	10	0	0	10	0	0	9	0	0
CHLOROBENZENE	10	0	1	10	0	0	9	0	0
1,4 DICHLOROBENZENE	10	0	0	10	0	0	9	0	0
1,3 DICHLOROBENZENE	10	0	0	10	0	0	9	0	0
1,2 DICHLOROBENZENE	10	0	0	10	0	0	9	0	0
ETHLYENE DIBROMIDE	10	0	0	10	0	0	9	0	0
TOTL TRIHALOMETHANES	10	0	8	10	10	0	9	9	0
*TOTAL SCAN VOLATILES	290	15	55	290	52	43	261	36	32
*TOTAL GROUP ORGANIC	1023	16	61	1010	52	46	640	36	32

KEY TO TABLE 5 and 6

A ONTARIO DRINKING WATER OBJECTIVES (ODWO)
1. Maximum Acceptable Concentration (MAC)
1+. MAC for Total Trihalomethanes
2. Interim Maximum Acceptable Concentration (IMAC)
3. Aesthetic Objective (AO)
3*. AO for Total Xylenes
4. Recommended Operational Guideline

B HEALTH & WELFARE CANADA (H&W)
1. Maximum Acceptable Concentration (MAC)
2. Proposed MAC
3. Interim MAC
4. Aesthetic Objective (AO)

C WORLD HEALTH ORGANIZATION (WHO)
1. Guideline Value (GV)
2. Tentative GV
3. Aesthetic GV

D US ENVIRONMENTAL PROTECTION AGENCY (EPA)
1. Maximum Contaminant Level (MCL)
2. Suggested No-Adverse Effect Level (SNAEL)
3. Lifetime Health Advisory
4. EPA Ambient Water Quality Criteria
4T. EPA Ambient Water Quality Criteria for Total PAH

F EUROPEAN ECONOMIC COMMUNITY (EEC)
1. Health Related Guideline Level
2. Aesthetic Guideline Level
3. Maximum Admissable Concentration (MADC)

G CALIFORNIA STATE DEPARTMENT OF HEALTH-GUIDELINE VALUE

I NEW YORK STATE AMBIENT WATER GUIDELINE

N/A NONE AVAILABLE

LABORATORY RESULTS, REMARK DESCRIPTIONS

:	No Sample Taken
BDL	Below Minimum Measurement Amount
<T	Greater Than Detection Limit But Not Confident (SEE INTERPRETATION OF RESULTS ABOVE)
>	Results Are Greater Than The Upper Limit
<=>	Approximate Result
ICS	No Data: Contamination Suspected
IIL	No Data: Sample Incorrectly Labelled
IIS	No Data: Insufficient Sample
IIV	No Data: Inverted Septum
ILA	No Data: Laboratory Accident
ILD	No Data: Test Queued After Sample Discarded
INA	No Data: No Authorization To Perform Reanalysis
INP	No Data: No Procedure
INR	No Data: Sample Not Received
IOP	No Data: Obscured Plate
IQU	No Data: Quality Control Unacceptable
IPE	No Data: Procedural Error - Sample Discarded
IPH	No Data: Sample pH Outside Valid Range
IRE	No Data: Received Empty
IRO	No Data: See Attached Report (no numeric results)
ISN	No Data: Sample Missing
ISS	No Data: Send Separate Sample Properly Preserved
IUI	No Data: Indeterminant Interference
ITX	No Data: Time Expired
A3C	Approximate, Total Count Exceeded 300 Colonies
APL	Additional Peak, Large, Not Priority Pollutant
APS	Additional Peak, Less Than, Not Priority Pollutant
CIC	Possible Contamination, Improper Cap
CRO	Calculated Result Only
PPS	Test Performed On Preserved Sample
RMP	P and M-Xylene Not Separated
RRV	Rerun Verification
RVU	Reported Value Unusual
SPS	Several Peaks, Small, Not Priority Pollutant

UCR		Unreliable: Could Not Confirm By Reanalysis
UCS		Unreliable: Contamination Suspected
UIN		Unreliable: Indeterminate Interference
XP		Positive After X Number Of Hours
T#	(T06)	Result Taken After # Hours

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP 1990

WATER TREATMENT PLANT

DISTRIBUTION SY

	RAW	TREATED	SITE 1 STANDING	SITE 1 FREE FLOW
BACTERIOLOGICAL				
FECAL COLIFORM MF (CT/100ML)			**DET'N LIMIT = 0**	**GUIDELINE = 0 (A1)**
MAR	2	.	.	.
APR	2	.	.	.
MAY	8	.	.	.
JUN	38	.	.	.
JUL	24	.	.	.
AUG	BDL	.	.	.
SEP	2	.	.	.
OCT	34	.	.	.
NOV	0	.	.	.
DEC	4	.	.	.
STANDRD PLATE CNT MF (COUNT/ML)			**DET'N LIMIT = 0**	**GUIDELINE = 500/ML (A3)**
MAR	.	3 <=>	.	7 <=>
APR	.	24	.	16
MAY	.	1700	.	100
JUN	.	2400 >	.	.
JUL	.	2400 >	.	45
AUG	.	2400 >	.	-
SEP	.	2400 >	.	2400 >
OCT	.	24	.	41
NOV	.	0	.	1 <=>
DEC	.	4 <=>	.	6 <=>
TOTAL COLIFORM MF (CT/100ML)			**DET'N LIMIT = 0**	**GUIDELINE = 5/100ML(A1)**
MAR	520	.	.	.
APR	1600	.	.	.
MAY	400 <=>	.	.	.
JUN	800 <=>	.	.	.
JUL	180 <=>	.	.	.
AUG	BDL	.	.	.
SEP	BDL	.	.	.
OCT	160	.	.	.
NOV	0	.	.	.
DEC	1100	.	.	.
T COLIFORM BCKGRD MF (CT/100ML)			**DET'N LIMIT = 0**	**GUIDELINE = N/A**
MAR	6200	.	.	.
APR	21000	.	.	.
MAY	46000	.	.	.
JUN	30000	.	.	.
JUL	15600	.	.	.
AUG	BDL	.	.	.
SEP	24000 >	.	.	.
OCT	24000 >	.	.	.
NOV	0	.	.	.
DEC	4100	.	.	.

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP 1990

WATER TREATMENT PLANT — DISTRIBUTION SYST

RAW — TREATED — SITE 1 — STANDING — FREE FLOW

CHEMISTRY (FLD)

FLD CHLORINE (COMB) (MG/L)	RAW	TREATED	STANDING	FREE FLOW
	DET'N LIMIT = 0			GUIDELINE = N/A
MAR	.	.100	.	.300
APR	.	.500	.	1.700
MAY	.	.200	.	.200
JUN	.	.200	.	.
JUL	.	.200	.	.300
AUG	.	.200	.200	.400
SEP	.	.200	.300	.000
OCT	.	.400	.200	.000
NOV	.	.	.600	.200
DEC	.	.400	.200	.600
FLD CHLORINE FREE (MG/L)			DET'N LIMIT = 0	GUIDELINE = N/A
MAR	.	1.900	.	.500
APR	.	1.200	.	.100
MAY	.	.900	.	1.100
JUN	.	1.300	.	.
JUL	.	1.300	.	1.000
AUG	.	1.100	1.100	1.100
SEP	.	1.100	.100	.500
OCT	.	.700	.500	.500
NOV	.	.	.300	1.100
DEC	.	1.600	1.100	1.100
FLD CHLORINE (TOTAL) (MG/L)			DET'N LIMIT = 0	GUIDELINE = N/A
MAR	.	2.000	.	.800
APR	.	1.700	.	1.800
MAY	.	1.100	.	1.300
JUN	.	1.500	.	.
JUL	.	1.500	.	1.300
AUG	.	1.300	1.300	1.500
SEP	.	1.300	.400	.500
OCT	.	1.100	.700	.500
NOV	.	.	.900	1.300
DEC	.	2.000	1.300	1.700
FLD PH (DMNSLESS)			DET'N LIMIT = N/A	GUIDELINE = 6.5-8.5(A4)
MAR	8.000	7.900	.	7.600
APR	8.000	7.900	.	8.200
MAY	8.400	7.600	.	8.400
JUN	7.600	7.600	.	.
JUL	8.000	7.600	.	8.100
AUG	7.400	7.500	7.600	7.600
SEP	7.800	7.600	7.800	7.800
OCT	7.200	7.600	7.400	7.400
NOV	.	.	7.800	7.800
DEC	7.400	7.600	8.000	8.000

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP 1990

WATER TREATMENT PLANT

DISTRIBUTION SYSTE

	RAW	TREATED	SITE 1 STANDING	FREE FLOW
FLD TEMPERATURE (DEG.C)			DET'N LIMIT = N/A	GUIDELINE = 15 (A3)
MAR	2.000	2.000	.	3.000
APR	5.500	6.000	.	1.000
MAY	11.000	10.000	.	15.000
JUN	15.000	15.000	.	.
JUL	15.000	15.500	.	16.000
AUG	16.000	16.000	18.000	17.000
SEP	15.000	15.000	18.000	16.000
OCT	10.000	12.000	16.000	16.000
NOV	.	.	15.000	10.000
DEC	4.000	4.000	15.000	8.000
FLD TURBIDITY (FTU)			DET'N LIMIT = N/A	GUIDELINE = 1 (A1)
MAR	.	.120	.	.
APR	.	.310	.	.
MAY	.	.870	.	.
JUN	.	.710	.	.
JUL	.	.230	.	.
AUG	.	.180	.	.
SEP	.	.460	.	.
OCT	.	.300	.	.
DEC	.	.310	.	.

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP 1990

WATER TREATMENT PLANT | DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1 STANDING	SITE 1 FREE FLOW
CHEMISTRY (LAB)				
ALKALINITY (MG/L)			**DET'N LIMIT = 0.2**	**GUIDELINE = 30-500 (A3)**
MAR	203.100	189.200	.	199.400
APR	202.700	200.500	201.400	200.500
MAY	195.600	193.800	187.900	188.700
JUN	191.100	186.100	.	.
JUL	198.100	192.100	194.200	193.500
AUG	-	186.700	-	-
SEP	192.700	189.000	213.800	219.700
OCT	196.800	190.600	217.100	218.700
NOV	209.900	206.400	207.700	206.200
DEC	214.200	209.500	208.800	210.600
CALCIUM (MG/L)			**DET'N LIMIT = 0.2**	**GUIDELINE = 100 (F2)**
MAR	95.000	88.800	.	94.200
APR	91.600	95.800	93.900	92.400
MAY	88.900	88.200	88.200	87.900
JUN	81.900	82.200	.	.
JUL	90.000	89.000	89.000	87.800
AUG	82.000	82.000	81.700	82.900
SEP	83.800	84.000	94.000	95.000
OCT	86.800	87.600	97.800	96.400
NOV	95.800	96.200	96.600	93.200
DEC	99.300	97.700	96.300	102.100
CHLORIDE (MG/L)			**DET'N LIMIT = 0.2**	**GUIDELINE = 250 (A3)**
MAR	16.500	21.300	.	20.300
APR	17.500	21.200	21.800	22.000
MAY	16.300	20.800	21.600	21.600
JUN	14.500	20.500	.	.
JUL	16.900	23.300	23.500	23.500
AUG	-	22.300	-	-
SEP	17.200	23.800	49.500	53.600
OCT	16.800	22.600	54.400	54.800
NOV	17.200	22.700	23.000	23.000
DEC	18.300	24.400	24.600	24.000
COLOUR (HZU)			**DET'N LIMIT = 0.5**	**GUIDELINE = 5 (A3)**
MAR	13.500	3.500	.	5.000
APR	16.000	6.000	6.000	6.500
MAY	14.500	7.000	5.500	5.500
JUN	14.000	8.000	.	.
JUL	10.500	5.500	4.000	4.500
AUG	-	2.500	-	-
SEP	8.500	5.000	1.000 <T	.500 <T
OCT	11.000	3.500	1.000 <T	.500 <T
NOV	10.000	4.000	4.500	4.500
DEC	12.500	4.000	4.500	4.000

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP 1990

	WATER TREATMENT PLANT			DISTRIBUTION SYSTEM
	RAW	TREATED	SITE 1	
			STANDING	FREE FLOW
CONDUCTIVITY (UMHO/CM)			DET'N LIMIT = 1.	GUIDELINE = 400 (F2)
MAR	584	580		
APR	571	590	.	596
MAY	543	558	591	590
JUN	528	539	228	557
JUL	540	555	.	.
AUG	-	537	560	559
SEP	526	542	-	-
OCT	537	553	676	700
NOV	577	591	698	697
DEC	596	618	595	591
			613	614
DISS ORG CARBON (MG/L)			DET'N LIMIT = .100	GUIDELINE = 5.0 (A3)
MAR	3.500	2.800		
APR	3.600	3.400	.	3.000
MAY	3.700	3.700	3.500	3.700
JUN	3.700	3.600	3.400	3.400
JUL	2.900	2.800	.	.
AUG	1.700	1.800	2.800	2.900
SEP	2.400	2.200	1.900	1.900
OCT	2.500	2.000	1.300	1.100
NOV	3.300	3.100	.800	.600
DEC	3.400	3.000	3.300	3.000
			3.000	3.200
FLUORIDE (MG/L)			DET'N LIMIT = 0.01	GUIDELINE = 2.4 (A1)
MAR	.080	.980		
APR	.100	1.260	.	1.000
MAY	.120	1.060	.760	.760
JUN	.100	1.020	1.280	1.280
JUL	.080	1.120	.	.
AUG	-	.980	1.300	1.300
SEP	.060	.980	-	-
OCT	.100	1.020	1.360	1.420
NOV	.120	.720	1.440	1.440
DEC	.100	1.260	.320	.280
			.740	.660
HARDNESS (MG/L)			DET'N LIMIT = 0.5	GUIDELINE = 80-100 (A4)
MAR	299.000	284.000		
APR	288.000	298.000	.	296.000
MAY	278.300	276.900	293.000	297.000
JUN	262.700	264.300	276.600	275.300
JUL	286.000	282.000	.	.
AUG	268.800	269.300	283.000	278.000
SEP	269.000	268.000	267.200	269.800
OCT	276.000	280.000	304.000	308.000
NOV	301.000	302.000	321.000	316.000
DEC	311.600	306.400	302.000	294.000
			303.100	318.500

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP 1990

WATER TREATMENT PLANT

DISTRIBUTION SYSTE

	RAW	TREATED	SITE 1 STANDING	SITE 1 FREE FLOW
IONCAL (DMNSLESS)			**DET'N LIMIT = N/A**	**GUIDELINE = N/A**
MAR	.788	1.096	.	.359
APR	4.047	.072	2.215	.290
MAY	1.266	.359	2.285	1.795
JUN	1.691	.633	.	.
JUL	2.813	2.761	2.054	1.235
AUG	3.732	3.743	2.335	3.028
SEP	1.581	2.321	1.129	.021
OCT	2.680	4.265	3.951	1.937
NOV	2.897	3.442	2.560	.345
DEC	2.338	.754	.228	4.496
LANGELIERS INDEX (DMNSLESS)			**DET'N LIMIT = N/A**	**GUIDELINE = N/A**
MAR	1.186	1.237	.	1.134
APR	1.261	1.224	1.217	1.222
MAY	1.225	1.166	1.208	1.123
JUN	1.081	1.030	.	.
JUL	1.266	1.227	1.231	1.234
AUG	1.074	1.051	1.053	1.069
SEP	1.045	1.046	1.138	1.123
OCT	1.178	1.147	1.211	1.218
NOV	1.185	1.198	1.202	1.204
DEC	1.258	1.189	1.191	1.211
MAGNESIUM (MG/L)			**DET'N LIMIT = 0.1**	**GUIDELINE = 30 (F2)**
MAR	14.900	15.100	.	14.800
APR	14.400	14.300	14.200	14.200
MAY	13.700	13.800	13.700	13.600
JUN	14.100	14.350	.	.
JUL	14.900	14.600	14.600	14.400
AUG	15.550	15.700	15.350	15.250
SEP	14.400	14.100	16.900	17.200
OCT	14.400	14.900	18.600	18.200
NOV	14.900	15.000	14.800	14.800
DEC	15.450	15.150	15.200	15.400
SODIUM (MG/L)			**DET'N LIMIT = 0.2**	**GUIDELINE = 200 (A4)**
MAR	8.000	10.400	.	9.700
APR	7.400	9.400	10.200	10.600
MAY	8.500	10.300	11.100	11.300
JUN	7.900	10.400	.	.
JUL	8.400	11.400	11.600	11.800
AUG	-	11.600	-	-
SEP	8.800	12.200	24.000	25.400
OCT	9.200	11.400	25.200	25.200
NOV	8.600	11.200	11.200	11.000
DEC	8.600	11.400	11.600	11.300

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP 1990

	WATER TREATMENT PLANT			DISTRIBUTION SYSTEM
	RAW	TREATED	SITE 1	
			STANDING	FREE FLOW
AMMONIUM TOTAL (MG/L)			**DET'N LIMIT = 0.002**	**GUIDELINE = 0.05 (F2)**
MAR	.002 <T	BDL	.	BDL
APR	BDL	BDL	BDL	BDL
MAY	.014	.002 <T	.004 <T	.002 <T
JUN	.034	BDL	.	.
JUL	.030	BDL	BDL	BDL
AUG	-	.006 <T	-	-
SEP	BDL	BDL	BDL	BDL
OCT	.064	.010	.008 <T	BDL
NOV	.004 <T	BDL	BDL	.004 <T
DEC	.014	.008 <T	.010	.008 <T
NITRITE (MG/L)			**DET'N LIMIT = 0.001**	**GUIDELINE = 1 (A1)**
MAR	.020	BDL	.	.002 <T
APR	.017	.001 <T	.001 <T	.002 <T
MAY	.020	.009	.007	.002 <T
JUN	.024	.001 <T	.	.
JUL	.051	.005	.003 <T	.003 <T
AUG	.001 <T	.002 <T	.029	.028
SEP	.005	.005	.011	.006
OCT	.061	.002 <T	.001 <T	BDL
NOV	.094	BDL	.001 <T	BDL
DEC	.025	.005	.007	.006
TOTAL NITRATES (MG/L)			**DET'N LIMIT = 0.005**	**GUIDELINE = 10 (A1)**
MAR	2.410	2.780	.	2.730
APR	2.720	2.740	2.750	2.760
MAY	2.050	2.050	2.140	2.160
JUN	1.680	1.710	.	.
JUL	2.050	2.030	1.920	1.920
AUG	2.910	2.870	2.810	2.830
SEP	2.570	2.180	5.150	5.430
OCT	2.080	2.270	5.360	5.480
NOV	1.640	1.570	1.630	1.620
DEC	2.480	2.440	2.580	2.390
NITROGEN TOT KJELD (MG/L)			**DET'N LIMIT = 0.02**	**GUIDELINE = N/A**
MAR	.370	.280	.	.210
APR	.450	.370	.360	.470
MAY	.470	.370	.350	.320
JUN	.540	.380	.	.
JUL	.410	.360	.340	.320
AUG	.220	.270	.490	.470
SEP	.340	.200	.340	.160
OCT	.230	.200	.150	.160
NOV	.410	.340	.400	.300
DEC	.340	.250	.300	.250

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP 1990

WATER TREATMENT PLANT — DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1 STANDING	SITE 1 FREE FLOW
PH (DIMNSLESS)			**DET'N LIMIT = N/A**	**GUIDELINE = 6.5-8.5(A4)**
MAR	8.370	8.480	.	8.330
APR	8.460	8.410	8.410	8.410
MAY	8.450	8.400	8.400	8.370
JUN	8.350	8.310	.	.
JUL	8.480	8.460	8.460	8.470
AUG	8.360	8.330	8.320	8.330
SEP	8.300	8.310	8.310	8.280
OCT	8.410	8.390	8.360	8.370
NOV	8.350	8.370	8.370	8.390
DEC	8.400	8.350	8.360	8.350
PHOSPHORUS FIL REACT (MG/L)			**DET'N LIMIT = 0.0005**	**GUIDELINE = N/A**
MAR	.001 <T	.002	.	.
APR	.001 <T	.003	.	.
MAY	.002	.000	.	.
JUN	.000 <T	.001 <T	.	.
JUL	.004	.000 <T	.	.
AUG	.001 <T	.003	.	.
SEP	.014	BDL	.	.
OCT	.002	.004	.	.
NOV	.007	.002 <T	.	.
DEC	.001 <T	.001 <T	.	.
PHOSPHORUS TOTAL (MG/L)			**DET'N LIMIT = 0.002**	**GUIDELINE = .40 (F2)**
MAR	.010	.005 <T	.	.
APR	.013	.007 <T	.	.
MAY	.018	.016	.	.
JUN	.022	.011	.	.
JUL	.023	.012	.	.
AUG	.006 <T	.013	.	.
SEP	.031	.007 <T	.	.
OCT	.005 <T	.004 <T	.	.
NOV	.017	.007 <T	.	.
DEC	.009 <T	.005 <T	.	.
SULPHATE (MG/L)			**DET'N LIMIT = .200**	**GUIDELINE = 500 (A3)**
MAR	75.270	77.340	.	77.280
APR	76.010	74.870	76.800	75.980
MAY	64.480	65.100	65.230	65.070
JUN	64.260	64.850	.	.
JUL	64.050	63.870	64.360	64.160
AUG	53.520	53.290	51.930	53.050
SEP	54.690	54.920	48.390	46.620
OCT	58.070	59.270	46.330	45.820
NOV	67.360	68.480	69.390	69.080
DEC	70.830	72.900	71.750	72.100

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP 1990

	WATER TREATMENT PLANT			DISTRIBUTION SYSTEM
	RAW	TREATED	SITE 1	
			STANDING	FREE FLOW
TURBIDITY (FTU)			DET'N LIMIT = 0.05	GUIDELINE = 1 (A1)
MAR	2.700	.420	.	.240 <T
APR	3.000	.610	.970	.970
MAY	2.700	2.300	.570	.480
JUN	2.700	1.800	.	.
JUL	1.900	1.500	1.400	1.400
AUG	-	2.400	-	-
SEP	2.200	.720	.910	.380
OCT	1.600	.790	.840	.300
NOV	2.300	.790	.930	1.300
DEC	2.400	.710	.880	.790

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP 1990

WATER TREATMENT PLANT | DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1 STANDING	SITE 1 FREE FLOW
METALS				
ALUMINUM (UG/L)			**DET'N LIMIT = 0.10**	**GUIDELINE = 100 (A4)**
MAR	19.000	97.000	.	87.000
APR	23.000	170.000	260.000	210.000
MAY	32.000	530.000	300.000	280.000
JUN	23.000	470.000	.	.
JUL	17.000	200.000	350.000	350.000
AUG	-	180.000	-	-
SEP	14.000	190.000	26.000	24.000
OCT	16.000	320.000	24.000	20.000
NOV	20.000	320.000	310.000	270.000
DEC	11.000	220.000	150.000	310.000
ARSENIC (UG/L)			**DET'N LIMIT = 0.10**	**GUIDELINE = 25 (A1)**
MAR	.920 <T	.700 <T	.	.870 <T
APR	.880 <T	.880 <T	.930 <T	.610 <T
MAY	.590 <T	.710 <T	.940 <T	.590 <T
JUN	.850 <T	.720 <T	.	.
JUL	.640 <T	.460 <T	.710 <T	.350 <T
AUG	.550 <T	.730 <T	.920 <T	.890 <T
SEP	.910 <T	.480 <T	BDL	.200 <T
OCT	.730 <T	.440 <T	.370 <T	.590 <T
NOV	.590 <T	.140 <T	.330 <T	.260 <T
DEC	.350 <T	.190 <T	BDL	.180 <T
BARIUM (UG/L)			**DET'N LIMIT = 0.05**	**GUIDELINE = 1000 (A2)**
MAR	54.000	49.000	.	48.000
APR	55.000	52.000	52.000	51.000
MAY	47.000	44.000	44.000	43.000
JUN	49.000	50.000	.	.
JUL	52.000	52.000	52.000	51.000
AUG	45.000	41.000	40.000	40.000
SEP	46.000	44.000	61.000	62.000
OCT	54.000	57.000	73.000	65.000
NOV	58.000	54.000	55.000	53.000
DEC	56.000	53.000	56.000	52.000
BORON (UG/L)			**DET'N LIMIT = 2.00**	**GUIDELINE = 5000 (A1)**
MAR	32.000	31.000	.	29.000
APR	20.000 <T	20.000 <T	21.000	20.000 <T
MAY	26.000	80.000	88.000	87.000
JUN	20.000 <T	19.000 <T	.	.
JUL	31.000	28.000	29.000	22.000
AUG	50.000	47.000	44.000	45.000
SEP	42.000	46.000	28.000	53.000
OCT	20.000 <T	19.000 <T	22.000	31.000
NOV	27.000	16.000 <T	29.000	20.000 <T
DEC	19.000 <T	18.000 <T	20.000 <T	17.000 <T

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP 1990

	WATER TREATMENT PLANT			DISTRIBUTION SYSTEM
	RAW	TREATED	SITE 1	
			STANDING	FREE FLOW
BERYLLIUM (UG/L)			DET'N LIMIT = 0.05	GUIDELINE = 6800 (D4)
MAR	BDL	BDL	.	BDL
APR	BDL	BDL	BDL	BDL
MAY	BDL	.060 <T	BDL	.100 <T
JUN	BDL	BDL	.	.
JUL	BDL	BDL	BDL	BDL
AUG	BDL	BDL	BDL	BDL
SEP	BDL	.090 <T	BDL	.070 <T
OCT	BDL	BDL	BDL	BDL
NOV	BDL	BDL	BDL	BDL
DEC	BDL	BDL	BDL	BDL
CADMIUM (UG/L)			DET'N LIMIT = 0.05	GUIDELINE = 5 (A1)
MAR	BDL	BDL	.	BDL
APR	BDL	BDL	BDL	BDL
MAY	BDL	BDL	BDL	BDL
JUN	BDL	BDL	.	.
JUL	BDL	BDL	BDL	BDL
AUG	BDL	BDL	BDL	BDL
SEP	BDL	BDL	BDL	BDL
OCT	BDL	BDL	BDL	BDL
NOV	BDL	BDL	.060 <T	BDL
DEC	BDL	BDL	.070 <T	BDL
COBALT (UG/L)			DET'N LIMIT = 0.02	GUIDELINE = N/A
MAR	BDL	BDL	.	BDL
APR	.070 <T	BDL	.040 <T	.070 <T
MAY	.230 <T	.100 <T	BDL	.080 <T
JUN	.030 <T	.110 <T	.	.
JUL	.200 <T	.120 <T	.240 <T	.270 <T
AUG	BDL	BDL	BDL	BDL
SEP	.080 <T	BDL	.120 <T	.100 <T
OCT	.070 <T	.040 <T	BDL	.050 <T
NOV	.030 <T	BDL	BDL	BDL
DEC	.220 <T	.160 <T	.180 <T	.210 <T
CHROMIUM (UG/L)			DET'N LIMIT = 0.50	GUIDELINE = 50 (A1)
MAR	2.500 <T	2.100 <T	.	1.900 <T
APR	BDL	BDL	BDL	BDL
MAY	.570 <T	3.800 <T	4.600 <T	4.100 <T
JUN	BDL	BDL	.	.
JUL	3.100 <T	2.900 <T	3.000 <T	1.300 <T
AUG	4.500 <T	4.000 <T	3.800 <T	3.700 <T
SEP	3.800 <T	4.500 <T	1.500 <T	5.200
OCT	BDL	BDL	BDL	7.100
NOV	3.300 <T	BDL	3.100 <T	1.100 <T
DEC	BDL	BDL	BDL	BDL

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP 1990

WATER TREATMENT PLANT | DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1 STANDING	SITE 1 FREE FLOW
COPPER (UG/L)			**DET'N LIMIT = 0.50**	**GUIDELINE = 1000 (A3)**
MAR	.720 <T	1.400 <T	.	2.700 <T
APR	.850 <T	1.100 <T	5.700	4.000 <T
MAY	1.100 <T	1.700 <T	6.500	4.900 <T
JUN	.760 <T	3.300 <T	.	.
JUL	1.000 <T	3.700 <T	3.700 <T	3.600 <T
AUG	-	.550 <T	-	-
SEP	.810 <T	.700 <T	5.500	4.800 <T
OCT	2.500 <T	3.800 <T	11.000	6.800
NOV	1.600 <T	.950 <T	12.000	4.300 <T
DEC	1.600 <T	2.600 <T	16.000	8.700
IRON (UG/L)			**DET'N LIMIT = 6.00**	**GUIDELINE = 300 (A3)**
MAR	210.000	7.500 <T	.	BDL
APR	200.000	10.000 <T	69.000	58.000 <T
MAY	240.000	110.000	44.000 <T	35.000 <T
JUN	190.000	97.000	.	.
JUL	240.000	22.000 <T	74.000	79.000
AUG	-	14.000 <T	-	-
SEP	200.000	25.000 <T	BDL	BDL
OCT	190.000	33.000 <T	8.000 <T	BDL
NOV	170.000	50.000 <T	44.000 <T	34.000 <T
DEC	150.000	26.000 <T	20.000 <T	34.000 <T
MERCURY (UG/L)			**DET'N LIMIT = 0.02**	**GUIDELINE = 1 (A1)**
MAR	BDL	BDL	.	.
APR	BDL	BDL	.	.
MAY	BDL	BDL	.	.
JUN	BDL	BDL	.	.
JUL	BDL	BDL	.	.
AUG	BDL	BDL	.	.
SEP	BDL	BDL	.	.
OCT	BDL	BDL	.	.
NOV	.060 <T	.050 <T	.	.
DEC	.030 <T	BDL	.	.
MANGANESE (UG/L)			**DET'N LIMIT = 0.05**	**GUIDELINE = 50 (A3)**
MAR	70.000	1.500	.	1.200
APR	91.000	2.900	9.400	7.400
MAY	110.000	29.000	11.000	10.000
JUN	76.000	37.000	.	.
JUL	120.000	11.000	22.000	22.000
AUG	-	9.100	-	-
SEP	210.000	47.000	1.900	2.000
OCT	79.000	11.000	1.700	.900
NOV	55.000	11.000	5.700	4.500
DEC	22.000	3.700	1.700	3.400

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP 1990

WATER TREATMENT PLANT — DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1 STANDING	SITE 1 FREE FLOW
MOLYBDENUM (UG/L)			DET'N LIMIT = 0.05	GUIDELINE = N/A
MAR	.910	.960	.	.980
APR	.890	.870	.920	.960
MAY	.870	.850	1.000	.850
JUN	.840	.800	.	.
JUL	.670	.980	.650	.610
AUG	.420 <T	.470 <T	.420 <T	.390 <T
SEP	.560	.510	.130 <T	.180 <T
OCT	.610	.660	.130 <T	.140 <T
NOV	.760	.810	.870	.800
DEC	.930	.860	.860	.940
NICKEL (UG/L)			DET'N LIMIT = 0.20	GUIDELINE = 350 (D3)
MAR	BDL	BDL	.	BDL
APR	.390 <T	BDL	BDL	BDL
MAY	BDL	BDL	BDL	BDL
JUN	BDL	BDL	.	.
JUL	1.300 <T	1.700 <T	1.500 <T	.290 <T
AUG	BDL	.440 <T	.380 <T	.610 <T
SEP	BDL	BDL	BDL	CDL
OCT	2.300	2.300	2.600	2.100
NOV	BDL	BDL	BDL	BDL
DEC	.710 <T	.610 <T	.840 <T	.290 <T
LEAD (UG/L)			DET'N LIMIT = 0.05	GUIDELINE = 10. (A1)
MAR	.090 <T	.290 <T	.	.130 <T
APR	.170 <T	.170 <T	.190 <T	.240 <T
MAY	.320 <T	.380 <T	.340 <T	.290 <T
JUN	.150 <T	1.500	.	.
JUL	.340 <T	1.000	.300 <T	.310 <T
AUG	.370 <T	BDL	.090 <T	.130 <T
SEP	.110 <T	.120 <T	.310 <T	.350 <T
OCT	.900	2.500	2.400	.590
NOV	.130 <T	.160 <T	1.800	.380 <T
DEC	.160 <T	.420 <T	1.300	.220 <T
ANTIMONY (UG/L)			DET'N LIMIT = 0.05	GUIDELINE = 146 (D4)
MAR	.390 <T	.210 <T	.	.350 <T
APR	.410 <T	.360 <T	.370 <T	.470 <T
MAY	.380 <T	.220 <T	.120 <T	.230 <T
JUN	.430 <T	.290 <T	.	.
JUL	.310 <T	.330 <T	.430 <T	.390 <T
AUG	.410 <T	.400 <T	.270 <T	.380 <T
SEP	.290 <T	.320 <T	.430 <T	.460 <T
OCT	.250 <T	.340 <T	.420 <T	.390 <T
NOV	.340 <T	.280 <T	.400 <T	.300 <T
DEC	.310 <T	.320 <T	.390 <T	.350 <T

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP 1990

WATER TREATMENT PLANT — DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1 STANDING	SITE 1 FREE FLOW
SELENIUM (UG/L)			**DET'N LIMIT = 1.00**	**GUIDELINE = 10 (A1)**
MAR	BDL	BDL	.	1.300 <T
APR	BDL	BDL	1.100 <T	1.100 <T
MAY	BDL	BDL	1.900 <T	2.100 <T
JUN	BDL	1.100 <T	.	.
JUL	1.500 <T	2.100 <T	1.100 <T	1.500 <T
AUG	BDL	BDL	BDL	BDL
SEP	1.100 <T	BDL	BDL	BDL
OCT	BDL	BDL	1.300 <T	1.800 <T
NOV	BDL	BDL	BDL	BDL
DEC	BDL	BDL	BDL	BDL
STRONTIUM (UG/L)			**DET'N LIMIT = 0.10**	**GUIDELINE = N/A**
MAR	230.000	230.000	.	220.000
APR	230.000	220.000	240.000	230.000
MAY	210.000	210.000	200.000	200.000
JUN	210.000	210.000	.	.
JUL	190.000	180.000	190.000	180.000
AUG	160.000	160.000	150.000	150.000
SEP	180.000	180.000	150.000	150.000
OCT	200.000	210.000	170.000	150.000
NOV	210.000	200.000	200.000	200.000
DEC	230.000	220.000	220.000	220.000
TITANIUM (UG/L)			**DET'N LIMIT = 0.50**	**GUIDELINE = N/A**
MAR	11.000	11.000	.	11.000
APR	10.000	10.000	11.000	11.000
MAY	22.000	21.000	20.000	20.000
JUN	18.000	17.000	.	.
JUL	19.000	20.000	20.000	21.000
AUG	14.000	15.000	15.000	14.000
SEP	21.000	20.000	23.000	24.000
OCT	6.600	6.100	7.300	6.500
NOV	9.800	9.900	9.700	8.900
DEC	12.000	12.000	11.000	11.000
THALLIUM (UG/L)			**DET'N LIMIT = 0.05**	**GUIDELINE = 13 (D4)**
MAR	BDL	BDL	.	BDL
APR	BDL	BDL	BDL	.060 <T
MAY	BDL	BDL	BDL	BDL
JUN	BDL	BDL	.	.
JUL	BDL	BDL	BDL	BDL
AUG	BDL	BDL	BDL	BDL
SEP	BDL	BDL	BDL	BDL
OCT	BDL	BDL	BDL	BDL
NOV	BDL	BDL	BDL	BDL
DEC	BDL	BDL	BDL	BDL

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP 1990

	WATER TREATMENT PLANT			DISTRIBUTION SYSTE
	RAW	TREATED	SITE 1	
			STANDING	FREE FLOW
URANIUM (UG/L)			DET'N LIMIT = 0.05	GUIDELINE = 100 (A1)
MAR	1.400	1.500		1.600
APR	1.700	1.600	1.600	1.600
MAY	1.100	1.300	1.100	1.200
JUN	.970	1.100		
JUL	.940	.910	.980	.900
AUG	.530	.610	.680	.680
SEP	.670	.630	.400 <T	.430 <T
OCT	.890	.780	.580	.520
NOV	1.100	1.100	1.000	1.100
DEC	1.400	1.300	1.300	1.400
VANADIUM (UG/L)			DET'N LIMIT = 0.05	GUIDELINE = N/A
MAR	.410 <T	.310 <T		.330 <T
APR	.540	.500 <T	.470 <T	.580
MAY	.420 <T	.310 <T	.240 <T	.220 <T
JUN	.360 <T	.290 <T		
JUL	.530	.370 <T	.420 <T	.370 <T
AUG	.270 <T	.300 <T	.400 <T	.390 <T
SEP	.390 <T	.210 <T	.140 <T	.220 <T
OCT	.390 <T	.270 <T	.310 <T	.330 <T
NOV	.250 <T	.150 <T	.110 <T	.130 <T
DEC	.100 <T	BDL	BDL	BDL
ZINC (UG/L)			DET'N LIMIT = 0.20	GUIDELINE = 5000 (A3)
MAR	3.100	2.900		2.900
APR	2.800	2.500	3.100	3.000
MAY	5.300	2.800	5.300	4.400
JUN	3.500	3.400		
JUL	3.800	3.700	4.500	4.200
AUG	-	1.800 <T	-	-
SEP	3.600	3.400	4.800	5.400
OCT	11.000	2.500	12.000	4.500
NOV	4.100	3.600	15.000	4.900
DEC	6.000	3.500	17.000	4.600

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP 1990

WATER TREATMENT PLANT | DISTRIBUTION SYST

	RAW	TREATED	SITE 1 STANDING	SITE 1 FREE FLOW
	CHLOROAROMATICS			
236	TRICHLOROTOLUENE (NG/L)		DET'N LIMIT = 5.000	GUIDELINE = N/A
MAR	BDL	BDL	.	BDL
APR	BDL	BDL	.	.
MAY	BDL	BDL	.	BDL
JUN	BDL	BDL	.	.
JUL	BDL	BDL	.	BDL
AUG	BDL	BDL	.	BDL
SEP	BDL	BDL	.	BDL
OCT	BDL	BDL	.	BDL
NOV	BDL	BDL	.	BDL
DEC	BDL	35.000 <T	.	BDL

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP 1990

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM	
	RAW	TREATED	SITE 1	
			STANDING	FREE FLOW
PESTICIDES & PCB				
ATRAZINE (NG/L)			DET'N LIMIT = 50	GUIDELINE = 60000 (A2)
MAR	BDL	BDL	.	.
APR	BDL	BDL	.	.
MAY	60.000 <T	220.000 <T	.	.
JUN	BDL	BDL	.	.
JUL	420.000 <T	80.000 <T	.	.
AUG	BDL	BDL	.	.
SEP	BDL	BDL	.	.
OCT	BDL	BDL	.	.
NOV	BDL	BDL	.	.
DEC	90.000 <T	100.000 <T	.	.

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP 1990

WATER TREATMENT PLANT | DISTRIBUTION SYST

	RAW	TREATED	SITE 1	
			STANDING	FREE FLOW
PHENOLICS (UG/L PHENOLICS)			DET'N LIMIT = .200	GUIDELINE = 2 (A4)
MAR	.800 <T	.600 <T	.	.
APR	.800 <T	.600 <T	.	.
MAY	BDL	.400 <T	.	.
JUN	BDL	BDL	.	.
JUL	.400 <T	.400 <T	.	.
AUG	BDL	.600 <T	.	.
SEP	BDL	1.000	.	.
OCT	5.400	1.800	.	.
NOV	.600 <T	.800 <T	.	.
DEC	1.000 <T	.600 <T	.	.

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP 1990

	WATER TREATMENT PLANT			DISTRIBUTION SYSTEM
	RAW	TREATED	SITE 1	
			STANDING	FREE FLOW
VOLATILES				
BENZENE (UG/L)			DET'N LIMIT = 0.05	GUIDELINE = 5 (A1)
MAR	BDL	BDL	.	BDL
APR	BDL	.050 <T	.	.050 <T
MAY	BDL	BDL	.	BDL
JUN	BDL	BDL	.	.
JUL	IIS	BDL	.	BDL
AUG	BDL	BDL	.	.050 <T
SEP	BDL	BDL	.	BDL
OCT	BDL	BDL	.	BDL
NOV	BDL	BDL	.	BDL
DEC	BDL	BDL	.	BDL
TOLUENE (UG/L)			DET'N LIMIT = 0.05	GUIDELINE = 24 (A3)
MAR	BDL	BDL	.	BDL
APR	BDL	BDL	.	BDL
MAY	BDL	.050 <T	.	.150 <T
JUN	BDL	.050 <T	.	.
JUL	IIS	BDL	.	BDL
AUG	BDL	.050 <T	.	BDL
SEP	BDL	.200 <T	.	BDL
OCT	BDL	BDL	.	BDL
NOV	BDL	BDL	.	BDL
DEC	BDL	BDL	.	BDL
ETHYLBENZENE (UG/L)			DET'N LIMIT = 0.05	GUIDELINE = 2.4 (A3)
MAR	BDL	BDL	.	BDL
APR	BDL	BDL	.	.050 <T
MAY	BDL	.050 <T	.	.200 <T
JUN	BDL	.150 <T	.	.
JUL	IIS	.100 <T	.	BDL
AUG	-	.200 <T	.	-
SEP	BDL	BDL	.	.050 <T
OCT	BDL	.100 <T	.	BDL
NOV	BDL	.100 <T	.	.050 <T
DEC	BDL	BDL	.	BDL
O-XYLENE (UG/L)			DET'N LIMIT = 0.05	GUIDELINE = 300 (A3*)
MAR	BDL	BDL	.	BDL
APR	BDL	BDL	.	BDL
MAY	BDL	BDL	.	BDL
JUN	BDL	BDL	.	.
JUL	IIS	BDL	.	BDL
AUG	BDL	BDL	.	.050 <T
SEP	BDL	BDL	.	BDL
OCT	BDL	BDL	.	BDL
NOV	BDL	BDL	.	BDL
DEC	BDL	BDL	.	BDL

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP 1990

	RAW	TREATED	SITE 1		DISTRIBUTION SYSTE
			STANDING	FREE FLOW	
STYRENE (UG/L)			**DET'N LIMIT = 0.05**		**GUIDELINE = 100 (D1)**
MAR	BDL	BDL	.	BDL	
APR	BDL	BDL	.	BDL	
MAY	BDL	.100 <T	.	.350 <T	
JUN	BDL	.250 <T	.	.	
JUL	IIS	.200 <T	.	.050 <T	
AUG	BDL	.300 <T	.	.050 <T	
SEP	BDL	BDL	.	BDL	
OCT	BDL	.150 <T	.	BDL	
NOV	BDL	.100 <T	.	.050 <T	
DEC	BDL	BDL	.	BDL	
T1,2DICHLOROETHYLENE (UG/L)			**DET'N LIMIT = 0.10**		**GUIDELINE = 70 (D1)**
MAR	BDL	BDL	.	BDL	
APR	BDL	BDL	.	BDL	
MAY	BDL	BDL	.	BDL	
JUN	BDL	BDL	.	.	
JUL	IIS	BDL	.	BDL	
AUG	BDL	BDL	.	BDL	
SEP	BDL	BDL	.	.200 <T	
OCT	BDL	BDL	.	BDL	
NOV	BDL	BDL	.	BDL	
DEC	BDL	BDL	.	BDL	
CHLOROFORM (UG/L)			**DET'N LIMIT = 0.10**		**GUIDELINE = 350 (A1+)**
MAR	BDL	86.200	.	61.800	
APR	BDL	69.300	.	80.200	
MAY	BDL	79.600	.	69.200	
JUN	BDL	95.600	.	.	
JUL	IIS	87.100	.	97.800	
AUG	-	61.900	.	-	
SEP	BDL	59.800	.	13.400	
OCT	BDL	49.600	.	10.800	
NOV	BDL	78.500	.	86.400	
DEC	BDL	94.400	.	105.200	
111, TRICHLOROETHANE (UG/L)			**DET'N LIMIT = 0.02**		**GUIDELINE = 200 (D1)**
MAR	BDL	BDL	.	BDL	
APR	BDL	BDL	.	BDL	
MAY	BDL	BDL	.	.080 <T	
JUN	BDL	BDL	.	.	
JUL	IIS	BDL	.	BDL	
AUG	BDL	BDL	.	BDL	
SEP	BDL	BDL	.	.220	
OCT	BDL	BDL	.	.180 <T	
NOV	BDL	BDL	.	BDL	
DEC	BDL	BDL	.	BDL	

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP 1990

WATER TREATMENT PLANT | DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1 STANDING	SITE 1 FREE FLOW
TRICHLOROETHYLENE (UG/L) DET'N LIMIT = 0.10 GUIDELINE = 50 (A1)				
MAR	BDL	BDL	.	BDL
APR	BDL	BDL	.	BDL
MAY	BDL	BDL	.	BDL
JUN	BDL	BDL	.	.
JUL	IIS	BDL	.	BDL
AUG	-	BDL	.	-
SEP	BDL	BDL	.	21.900
OCT	BDL	BDL	.	20.600
NOV	BDL	BDL	.	BDL
DEC	BDL	BDL	.	BDL
DICHLOROBROMOMETHANE (UG/L) DET'N LIMIT = 0.05 GUIDELINE = 350 (A1+)				
MAR	BDL	9.950	.	8.350
APR	BDL	10.000	.	11.500
MAY	BDL	8.100	.	7.750
JUN	BDL	9.350	.	.
JUL	IIS	10.850	.	10.550
AUG	-	11.750	.	-
SEP	BDL	9.450	.	9.400
OCT	BDL	8.650	.	8.950
NOV	BDL	8.800	.	9.050
DEC	BDL	10.550	.	10.950
CHLORODIBROMOMETHANE (UG/L) DET'N LIMIT = 0.10 GUIDELINE = 350 (A1+)				
MAR	BDL	.700 <T	.	.600 <T
APR	BDL	.500 <T	.	.600 <T
MAY	BDL	.500 <T	.	.500 <T
JUN	BDL	.700 <T	.	.
JUL	IIS	.800 <T	.	.800 <T
AUG	-	1.400	.	-
SEP	BDL	.900 <T	.	6.000
OCT	BDL	.900 <T	.	5.800
NOV	BDL	.600 <T	.	.500 <T
DEC	BDL	.600 <T	.	.600 <T
T-CHLOROETHYLENE (UG/L) DET'N LIMIT = 0.05 GUIDELINE = 5 (D1)				
MAR	BDL	BDL	.	BDL
APR	BDL	BDL	.	BDL
MAY	BDL	BDL	.	BDL
JUN	BDL	BDL	.	.
JUL	IIS	BDL	.	BDL
AUG	-	BDL	.	-
SEP	BDL	BDL	.	.200 <T
OCT	BDL	BDL	.	.150 <T
NOV	BDL	BDL	.	BDL
DEC	BDL	BDL	.	BDL

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI WTP 1990

WATER TREATMENT PLANT — DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1 STANDING	SITE 1 FREE FLOW
BROMOFORM (UG/L)			DET'N LIMIT = 0.20	GUIDELINE = 350 (A1+)
MAR	BDL	BDL	.	BDL
APR	BDL	BDL	.	BDL
MAY	BDL	BDL	.	BDL
JUN	BDL	BDL	.	.
JUL	IIS	BDL	.	BDL
AUG	BDL	BDL	.	BDL
SEP	BDL	BDL	.	1.000 <T
OCT	BDL	BDL	.	.800 <T
NOV	BDL	BDL	.	BDL
DEC	BDL	BDL	.	BDL
TOTAL TRIHALOMETHANES (UG/L)			DET'N LIMIT = 0.50	GUIDELINE = 350 (A1)
MAR	BDL	96.800	.	70.700
APR	BDL	79.800	.	92.300
MAY	BDL	88.200	.	77.450
JUN	BDL	105.350	.	.
JUL	IIS	98.750	.	109.200
AUG	-	75.050	.	-
SEP	BDL	70.150	.	29.800
OCT	BDL	59.100	.	26.400
NOV	BDL	87.850	.	96.000
DEC	BDL	105.600	.	116.750

TRACE LEVELS OF TOLUENE ARE LABORATORY ARTIFACTS DERIVED FROM THE ANALYTICAL METHODOLOGY.

TRACE LEVELS OF STYRENE ARE CONSIDERED TO BE LABORATORY ARTIFACTS RESULTING FROM THE LABORATORY SHIPPING CONTAINERS.

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY 1990

	WATER TREATMENT PLANT			DISTRIBUTION SYSTEM
	RAW	TREATED	SITE 1	
			STANDING	FREE FLOW
BACTERIOLOGICAL				
FECAL COLIFORM MF (CT/100ML)			**DET'N LIMIT = 0**	**GUIDELINE = 0 (A1)**
MAR	BDL	.	.	.
APR	4	.	.	.
MAY	BDL	.	.	.
JUN	12	.	.	.
JUL	20	.	.	.
AUG	26	.	.	.
SEP	24	.	.	.
OCT	36	.	.	.
NOV	0	.	.	.
DEC	BDL	.	.	.
STANDRD PLATE CNT MF (COUNT/ML)			**DET'N LIMIT = 0**	**GUIDELINE = 500/ML (A3)**
MAR	.	0 <=>	.	0 <=>
APR	.	4 <=>	.	9 <=>
MAY	.	111	.	28
JUN	.	2200	.	0 <=>
JUL	.	2400 >	.	7 <=>
AUG	.	1600	.	23
SEP	.	2400 >	.	2400 >
OCT	.	230	.	43
NOV	.	0	.	19
DEC	.	9 <=>	.	2 <=>
TOTAL COLIFORM MF (CT/100ML)			**DET'N LIMIT = 0**	**GUIDELINE = 5/100ML(A1)**
MAR	32		.	.
APR	160		.	.
MAY	260		.	.
JUN	80 <=>		.	.
JUL	340		.	.
AUG	170		.	.
SEP	110		.	.
OCT	290		.	.
NOV	0		.	.
DEC	120		.	.
T COLIFORM BCKGRD MF (CT/100ML)			**DET'N LIMIT = 0**	**GUIDELINE = N/A**
MAR	724		.	.
APR	4000		.	.
MAY	28000		.	.
JUN	16800		.	.
JUL	6400		.	.
AUG	6200		.	.
SEP	24000 >		.	.
OCT	19000		.	.
NOV	0		.	.
DEC	2900		.	.

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY 1990

	WATER TREATMENT PLANT			DISTRIBUTION SYSTEM
	RAW	TREATED	SITE 1	
			STANDING	FREE FLOW
CHEMISTRY (FLD)				
FLD CHLORINE (COMB) (MG/L)			DET'N LIMIT = 0	GUIDELINE = N/A
MAR	.	.200	.	.200
APR	.	.	.100	.200
MAY	.	.200	.000	.000
JUN	.	.200	.000	.200
JUL	.	.200	.000	.200
AUG	.	.400	.100	.200
SEP	.	.100	.100	.000
OCT	.	.400	.000	.200
NOV	.	.	.200	.200
DEC	.	.200	.000	.200
FLD CHLORINE FREE (MG/L)			DET'N LIMIT = 0	GUIDELINE = N/A
MAR	.	1.700	.	1.100
APR	.	1.100	.100	1.100
MAY	.	1.100	.100	.700
JUN	.	.900	.100	.500
JUL	.	.900	.100	1.300
AUG	.	1.100	.100	.900
SEP	.	1.000	.100	.700
OCT	.	.500	.100	.500
NOV	.	.	.100	.900
DEC	.	1.000	.100	1.500
FLD CHLORINE (TOTAL) (MG/L)			DET'N LIMIT = 0	GUIDELINE = N/A
MAR	.	1.900	.	1.300
APR	.	1.100	.200	1.300
MAY	.	1.300	.100	.700
JUN	.	1.100	.100	.700
JUL	.	1.100	.100	1.500
AUG	.	1.500	.200	1.100
SEP	.	1.100	.200	.700
OCT	.	.900	.100	.700
NOV	.	.	.300	1.100
DEC	.	1.200	.100	1.700
FLD PH (DIMNSLESS)			DET'N LIMIT = N/A	GUIDELINE = 6.5-8.5(A4)
MAR	7.500	7.400	.	7.700
APR	7.700	7.600	7.600	8.000
MAY	7.500	7.400	7.800	7.600
JUN	7.500	7.400	7.800	7.800
JUL	7.200	7.400	7.800	7.600
AUG	7.200	7.200	7.800	7.400
SEP	7.400	7.600	7.600	7.400
OCT	7.400	7.400	7.600	7.600
NOV	.	.	7.800	7.600
DEC	7.400	7.500	7.800	7.400

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY 1990

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM	
	RAW	TREATED	SITE 1	
			STANDING	FREE FLOW
FLD TEMPERATURE (DEG.C)			DET'N LIMIT = N/A	GUIDELINE = 15 (A3)
MAR	6.000	6.500	.	5.000
APR	8.000	8.000	19.000	8.000
MAY	10.000	10.000	18.000	14.000
JUN	14.000	15.000	18.000	14.000
JUL	12.500	12.500	22.000	16.000
AUG	13.000	13.000	21.000	16.000
SEP	13.000	13.000	20.000	14.000
OCT	10.000	10.500	19.000	13.000
NOV	.	.	19.000	12.000
DEC	3.000	3.000	19.000	9.000

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY 1990

WATER TREATMENT PLANT — DISTRIBUTION SYSTEM

RAW — TREATED — SITE 1 — STANDING — FREE FLOW

CHEMISTRY (LAB)

	RAW	TREATED	SITE 1 STANDING	SITE 1 FREE FLOW
ALKALINITY (MG/L) — DET'N LIMIT = 0.2 — GUIDELINE = 30-500 (A4)				
MAR	221.800	221.800	.	221.600
APR	145.200	221.700	220.200	201.900
MAY	120.900	168.600	192.400	189.200
JUN	221.200	219.100	216.500	186.100
JUL	222.500	219.900	198.100	194.300
AUG	215.400	216.800	217.000	192.000
SEP	216.400	218.600	219.900	219.000
OCT	216.000	222.200	222.000	221.000
NOV	227.000	226.300	205.300	206.600
DEC	231.000	225.900	211.500	209.800
CALCIUM (MG/L) — DET'N LIMIT = 0.2 — GUIDELINE = 100 (F2)				
MAR	89.600	95.200	.	92.400
APR	72.400	95.300	98.000	95.600
MAY	54.880	81.600	85.800	83.300
JUN	91.200	92.900	91.600	80.700
JUL	95.000	96.200	92.000	88.000
AUG	92.700	97.400	94.600	84.800
SEP	96.000	96.400	95.000	96.000
OCT	97.600	99.200	100.000	96.600
NOV	95.200	100.000	94.400	92.800
DEC	91.300	98.000	100.400	100.000
CHLORIDE (MG/L) — DET'N LIMIT = 0.2 — GUIDELINE = 250 (A3)				
MAR	51.800	53.400	.	53.300
APR	51.500	52.800	49.300	21.900
MAY	50.400	51.400	26.100	22.000
JUN	50.000	51.300	48.000	21.700
JUL	50.500	52.600	27.300	24.000
AUG	51.900	51.500	53.200	30.100
SEP	52.100	53.800	54.100	53.900
OCT	53.200	54.600	55.100	54.200
NOV	54.300	55.700	23.100	23.100
DEC	54.900	55.800	25.000	24.500
COLOUR (HZU) — DET'N LIMIT = 0.5 — GUIDELINE = 5 (A3)				
MAR	1.000 <T	.500 <T	.	.500 <T
APR	1.000 <T	.500 <T	1.000 <T	5.500
MAY	BDL	BDL	4.000	4.500
JUN	3.000	BDL	.500 <T	5.500
JUL	.500 <T	BDL	5.000	4.500
AUG	.500 <T	BDL	BDL	1.500 <T
SEP	1.500 <T	.500 <T	.500 <T	BDL
OCT	1.500 <T	1.000 <T	1.000 <T	.500 <T
NOV	1.000 <T	.500 <T	5.500	4.000
DEC	1.000 <T	.500 <T	6.500	4.500

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY 1990

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM	
	RAW	TREATED	SITE 1	
			STANDING	FREE FLOW
CONDUCTIVITY (UMHO/CM)			DET'N LIMIT = 1.	GUIDELINE = 400 (F2)
MAR	697	705	.	703
APR	687	703	693	596
MAY	679	700	580	563
JUN	683	694	673	549
JUL	689	695	579	562
AUG	675	689	686	576
SEP	683	699	699	698
OCT	691	711	710	707
NOV	711	724	592	594
DEC	721	723	620	616
DISS ORG CARBON (MG/L)			DET'N LIMIT = .100	GUIDELINE = 5.0 (A3)
MAR	.600	.900	.	.900
APR	.800	.800	1.400	3.400
MAY	.900	1.000	2.800	3.500
JUN	1.800	1.100	1.800	3.900
JUL	.800	1.100	2.500	3.000
AUG	.900	1.100	1.100	1.500
SEP	.800	1.000	1.000	1.000
OCT	.800	.800	1.000	.900
NOV	.800	.800	2.700	2.900
DEC	.500	.600	2.900	2.900
FLUORIDE (MG/L)			DET'N LIMIT = 0.01	GUIDELINE = 2.4 (A1)
MAR	.060	1.340	.	1.320
APR	.080	1.240	1.220	.740
MAY	.100	1.400	1.480	1.360
JUN	.080	1.360	1.300	1.120
JUL	.100	1.560	1.400	1.300
AUG	.080	1.200	1.300	1.120
SEP	.040 <T	1.640	1.540	1.520
OCT	.060	1.500	1.520	1.500
NOV	.040 <T	1.340	.340	.240
DEC	.060	1.220	.700	.600
HARDNESS (MG/L)			DET'N LIMIT = 0.5	GUIDELINE = 80-100 (A4)
MAR	298.200	312.000	.	307.000
APR	255.000	312.000	316.000	298.000
MAY	213.000	274.600	274.300	265.000
JUN	300.600	306.100	301.300	260.700
JUL	311.000	313.000	292.000	280.000
AUG	308.200	320.900	310.800	278.900
SEP	310.000	312.000	308.000	311.000
OCT	319.000	323.000	325.000	316.000
NOV	314.000	324.000	296.000	293.000
DEC	304.300	320.200	313.100	312.800

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY 1990

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM	
	RAW	TREATED	SITE 1	
			STANDING	FREE FLOW
IONCAL (DMNSLESS)			DET'N LIMIT = N/A	GUIDELINE = N/A
MAR	4.987	.705	.	2.880
APR	6.144	.869	.200	.079
MAY	6.742	5.032	.271	2.396
JUN	3.487	.762	1.281	2.247
JUL	1.078	.493	4.507	1.117
AUG	.802	4.682	1.113	3.558
SEP	1.301	2.005	.186	.869
OCT	3.881	3.237	3.770	1.832
NOV	.629	2.044	2.057	.453
DEC	3.841	2.285	2.194	3.176
LANGELIERS INDEX (DMNSLESS)			DET'N LIMIT = N/A	GUIDELINE = N/A
MAR	1.162	1.208	.	1.285
APR	.506	1.249	1.248	1.235
MAY	.637	1.042	1.139	1.111
JUN	1.009	.953	1.052	.991
JUL	1.249	1.269	1.242	1.226
AUG	1.105	1.099	1.197	1.053
SEP	1.062	1.148	1.194	1.147
OCT	1.328	1.377	1.410	1.373
NOV	1.258	1.197	1,208	1.193
DEC	1.207	1.188	1.245	1.220
MAGNESIUM (MG/L)			DET'N LIMIT = 0.10	GUIDELINE = 30 (F2)
MAR	18.100	18.200	.	18.500
APR	18.000	18.000	17.400	14.500
MAY	23.240	17.250	14.600	13.850
JUN	17.750	18.000	17.650	14.400
JUL	18.000	17.600	15.200	14.600
AUG	18.650	18.850	18.150	16.350
SEP	17.000	17.400	17.200	17.400
OCT	18.400	18.400	18.300	18.200
NOV	18.400	17.900	14.800	14.800
DEC	18.600	18.350	15.150	15.300
SODIUM (MG/L)			DET'N LIMIT = 0.2	GUIDELINE = 200 (A4)
MAR	22.500	23.900	.	23.400
APR	22.000	22.800	20.800	10.000
MAY	20.800	23.600	12.800	11.200
JUN	21.400	23.300	20.900	11.000
JUL	23.600	24.000	13.800	11.400
AUG	23.500	24.800	24.400	15.000
SEP	24.400	26.200	25.600	25.400
OCT	24.800	25.600	25.800	25.400
NOV	24.600	26.000	11.600	11.800
DEC	26.300	27.500	12.200	12.000

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY 1990

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM	
	RAW	TREATED	SITE 1	
			STANDING	FREE FLOW
AMMONIUM TOTAL (MG/L)			**DET'N LIMIT = 0.002**	**GUIDELINE = 0.05 (F2)**
MAR	BDL	BDL	.	BDL
APR	.002 <T	BDL	.004 <T	BDL
MAY	.008 <T	BDL	.004 <T	BDL
JUN	BDL	BDL	BDL	BDL
JUL	.004 <T	BDL	BDL	BDL
AUG	.022	.002 <T	.004 <T	.002 <T
SEP	.038	BDL	BDL	BDL
OCT	.044	BDL	BDL	BDL
NOV	.034	.002 <T	.014	.004 <T
DEC	.048	BDL	.016	.006 <T
NITRITE (MG/L)			**DET'N LIMIT = 0.001**	**GUIDELINE = 1 (A1)**
MAR	.021	BDL	.	BDL
APR	.015	BDL	.002 <T	.001 <T
MAY	.017	.001 <T	.003 <T	.002 <T
JUN	.016	BDL	.001 <T	.001 <T
JUL	.024	.006	.008	.005
AUG	.021	.001 <T	BDL	BDL
SEP	.040	.005	.010	.008
OCT	.028	BDL	BDL	BDL
NOV	.027	BDL	.001 <T	BDL
DEC	.018	BDL	.007	.005
TOTAL NITRATES (MG/L)			**DET'N LIMIT = 0.005**	**GUIDELINE = 10 (A1)**
MAR	5.880	5.900	.	5.980
APR	4.960	5.570	4.910	2.800
MAY	5.520	5.760	2.680	2.220
JUN	5.570	5.570	2.010	1.700
JUL	6.500	6.280	2.240	1.790
AUG	5.540	5.540	5.470	3.510
SEP	5.410	5.420	5.450	5.420
OCT	5.390	5.420	5.330	5.440
NOV	5.100	5.440	1.740	1.700
DEC	5.400	5.430	2.530	2.470
NITROGEN TOT KJELD (MG/L)			**DET'N LIMIT = 0.02**	**GUIDELINE = N/A**
MAR	.160	.090 <T	.	.090 <T
APR	.230	.140	.220	.390
MAY	.230	.150	.300	.310
JUN	.210	.170	.280	.350
JUL	.200	.180	.350	.320
AUG	.180	.210	.210	.230
SEP	.170	.150	.190	.150
OCT	.220	.160	.260	.210
NOV	.160	.120	.330	.310
DEC	.100	.050 <T	.310	.250

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY 1990

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM	
	RAW	TREATED	SITE 1	
			STANDING	FREE FLOW
PH (DIMNSLESS)			**DET'N LIMIT = N/A**	**GUIDELINE = 6.5-8.5(A4)**
MAR	8.340	8.360	.	8.450
APR	7.960	8.400	8.390	8.420
MAY	8.290	8.380	8.390	8.380
JUN	8.180	8.120	8.230	8.280
JUL	8.400	8.420	8.450	8.460
AUG	8.280	8.250	8.360	8.310
SEP	8.220	8.300	8.350	8.300
OCT	8.480	8.510	8.540	8.520
NOV	8.400	8.320	8.390	8.380
DEC	8.360	8.320	8.390	8.370
PHOSPHORUS FIL REACT (MG/L)			**DET'N LIMIT = 0.0005**	**GUIDELINE = N/A**
MAR	BDL	.010	.	.
APR	BDL	.008	.	.
MAY	.000	.001	.	.
JUN	BDL	.004	.	.
JUL	BDL	.002	.	.
AUG	.000 <T	.001 <T	.	.
SEP	BDL	BDL	.	.
OCT	BDL	.004	.	.
NOV	.001 <T	.004	.	.
DEC	.000 <T	.001 <T	.	.
PHOSPHORUS TOTAL (MG/L)			**DET'N LIMIT = 0.002**	**GUIDELINE = .40 (F2)**
MAR	BDL	.011	.	.
APR	.002 <T	.011	.	.
MAY	.004 <T	.008 <T	.	.
JUN	BDL	.006 <T	.	.
JUL	BDL	.005 <T	.	.
AUG	.003 <T	.011	.	.
SEP	BDL	.005 <T	.	.
OCT	BDL	BDL	.	.
NOV	.003 <T	.007 <T	.	.
DEC	.003 <T	.003 <T	.	.
SULPHATE (MG/L)			**DET'N LIMIT = .200**	**GUIDELINE = 500 (A3)**
MAR	46.590	46.940	.	47.820
APR	47.630	46.670	51.340	73.910
MAY	46.670	46.740	61.560	65.320
JUN	45.860	46.140	48.960	65.520
JUL	47.530	48.020	61.130	63.930
AUG	46.180	46.740	46.400	51.740
SEP	47.000	46.210	46.660	47.000
OCT	47.200	46.580	46.450	45.760
NOV	45.580	46.030	68.380	68.670
DEC	46.080	45.580	73.400	72.090

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY 1990

	WATER TREATMENT PLANT			DISTRIBUTION SYSTEM	
	RAW	TREATED	SITE 1		
			STANDING	FREE FLOW	
TURBIDITY (FTU)			DET'N LIMIT = 0.05	GUIDELINE = 1	(A1)
MAR	.430	.400	.	.410	
APR	.440	.310	.440	.480	
MAY	.820	.290	.500	.280	
JUN	1.100	.700	1.100	.380	
JUL	.450	.410	1.100	.520	
AUG	.990	.700	.600	.210	<T
SEP	.520	.400	.490	.380	
OCT	.360	.370	.480	.300	
NOV	.380	.350	.470	.180	<T
DEC	.530	.360	.890	.520	

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY 1990

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM	
	RAW	TREATED	SITE 1	
			STANDING	FREE FLOW
METALS				
ALUMINUM (UG/L)			DET'N LIMIT = 0.10	GUIDELINE = 100 (A4)
MAR	5.400	6.400	.	10.000
APR	6.900	7.400	29.000	130.000
MAY	24.000	26.000	89.000	120.000
JUN	15.000	17.000	44.000	210.000
JUL	2.800	3.000	150.000	160.000
AUG	4.200	6.900	27.000	51.000
SEP	6.000	7.100	30.000	11.000
OCT	1.800	1.900	24.000	6.600
NOV	2.500	2.400	97.000	89.000
DEC	2.400	3.700	100.000	82.000
ARSENIC (UG/L)			DET'N LIMIT = 0.10	GUIDELINE = 25 (A1)
MAR	.280 <T	.540 <T	.	.590 <T
APR	.900 <T	1.100	1.200	.570 <T
MAY	BDL	.540 <T	.720 <T	.650 <T
JUN	BDL	BDL	BDL	.550 <T
JUL	BDL	BDL	.740 <T	.790 <T
AUG	BDL	.540 <T	.290 <T	.690 <T
SEP	BDL	.520 <T	.530 <T	.440 <T
OCT	.390 <T	.470 <T	.520 <T	.400 <T
NOV	BDL	BDL	.180 <T	BDL
DEC	BDL	BDL	.360 <T	.290 <T
BARIUM (UG/L)			DET'N LIMIT = 0.05	GUIDELINE = 1000 (A2)
MAR	54.000	55.000	.	56.000
APR	54.000	55.000	62.000	50.000
MAY	52.000	53.000	49.000	44.000
JUN	51.000	51.000	54.000	47.000
JUL	53.000	53.000	54.000	51.000
AUG	55.000	55.000	59.000	47.000
SEP	67.000	67.000	68.000	65.000
OCT	68.000	68.000	70.000	64.000
NOV	60.000	61.000	57.000	50.000
DEC	67.000	66.000	72.000	57.000
BORON (UG/L)			DET'N LIMIT = 2.00	GUIDELINE = 5000 (A1)
MAR	28.000	47.000	.	58.000
APR	24.000	24.000	25.000	49.000
MAY	95.000	85.000	80.000	79.000
JUN	21.000	21.000	21.000	20.000 <T
JUL	32.000	33.000	27.000	26.000
AUG	44.000	51.000	52.000	47.000
SEP	49.000	46.000	54.000	50.000
OCT	28.000	33.000	33.000	31.000
NOV	31.000	32.000	27.000	26.000
DEC	20.000 <T	22.000	18.000 <T	15.000 <T

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY 1990

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM	
	RAW	TREATED	SITE 1	
			STANDING	FREE FLOW
BERYLLIUM (UG/L)			**DET'N LIMIT = 0.05**	**GUIDELINE = 6800 (D4)**
MAR	BDL	.060 <T	.	.130 <T
APR	BDL	BDL	BDL	.060 <T
MAY	.070 <T	BDL	BDL	.060 <T
JUN	BDL	BDL	BDL	BDL
JUL	BDL	BDL	BDL	BDL
AUG	BDL	.090 <T	.080 <T	BDL
SEP	.080 <T	.080 <T	.080 <T	.100 <T
OCT	BDL	BDL	BDL	BDL
NOV	BDL	BDL	BDL	BDL
DEC	BDL	BDL	BDL	BDL
CADMIUM (UG/L)			**DET'N LIMIT = 0.05**	**GUIDELINE = 5 (A1)**
MAR	BDL	BDL	.	BDL
APR	BDL	BDL	.060 <T	BDL
MAY	BDL	BDL	BDL	BDL
JUN	BDL	BDL	BDL	BDL
JUL	BDL	BDL	BDL	BDL
AUG	BDL	BDL	BDL	BDL
SEP	BDL	BDL	.060 <T	BDL
OCT	BDL	BDL	BDL	BDL
NOV	BDL	BDL	BDL	BDL
DEC	BDL	2.000	BDL	BDL
COBALT (UG/L)			**DET'N LIMIT = 0.02**	**GUIDELINE = N/A**
MAR	BDL	BDL	.	BDL
APR	BDL	BDL	.070 <T	.030 <T
MAY	.050 <T	.140 <T	.110 <T	.090 <T
JUN	BDL	BDL	.080 <T	.050 <T
JUL	.210 <T	.150 <T	.240 <T	.240 <T
AUG	BDL	BDL	BDL	BDL
SEP	.030 <T	.030 <T	.100 <T	.080 <T
OCT	BDL	.030 <T	.030 <T	BDL
NOV	BDL	BDL	.030 <T	.050 <T
DEC	BDL	BDL	BDL	BDL
CHROMIUM (UG/L)			**DET'N LIMIT = 0.50**	**GUIDELINE = 50 (A1)**
MAR	1.700 <T	4.900 <T	.	6.200
APR	BDL	BDL	BDL	5.300
MAY	4.900 <T	4.200 <T	3.900 <T	3.700 <T
JUN	.540 <T	.540 <T	BDL	BDL
JUL	3.400 <T	3.600 <T	2.800 <T	2.600 <T
AUG	3.700 <T	5.000 <T	5.200	4.200 <T
SEP	5.000 <T	4.300 <T	5.400	5.000 <T
OCT	5.000 <T	7.500	7.900	6.100
NOV	3.800 <T	3.900 <T	3.000 <T	2.800 <T
DEC	.540 <T	.770 <T	BDL	BDL

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY 1990

WATER TREATMENT PLANT — DISTRIBUTION SYSTEM

RAW — TREATED — SITE 1

			STANDING	FREE FLOW
COPPER (UG/L)			**DET'N LIMIT = 0.50**	**GUIDELINE = 1000 (A3)**
MAR	.780 <T	1.300 <T	.	42.000
APR	.720 <T	1.100 <T	360.000	32.000
MAY	.890 <T	1.300 <T	220.000	33.000
JUN	1.000 <T	1.500 <T	430.000	32.000
JUL	1.100 <T	1.300 <T	280.000	32.000
AUG	.720 <T	1.400 <T	340.000	46.000
SEP	.920 <T	1.400 <T	310.000	31.000
OCT	1.300 <T	1.400 <T	320.000	36.000
NOV	.990 <T	1.100 <T	200.000	26.000
DEC	1.300 <T	1.300 <T	280.000	28.000
IRON (UG/L)			**DET'N LIMIT = 6.00**	**GUIDELINE = 300 (A3)**
MAR	BDL	BDL	.	BDL
APR	BDL	BDL	18.000 <T	21.000 <T
MAY	BDL	BDL	21.000 <T	8.000 <T
JUN	BDL	BDL	BDL	BDL
JUL	BDL	BDL	72.000	15.000 <T
AUG	BDL	BDL	17.000 <T	BDL
SEP	BDL	BDL	7.300 <T	BDL
OCT	BDL	BDL	14.000 <T	BDL
NOV	BDL	BDL	35.000 <T	6.900 <T
DEC	BDL	BDL	59.000 <T	BDL
MERCURY (UG/L)			**DET'N LIMIT = 0.02**	**GUIDELINE = 1 (A1)**
MAR	BDL	BDL	.	.
APR	BDL	BDL	.	.
MAY	BDL	BDL	.	.
JUN	BDL	BDL	.	.
JUL	BDL	BDL	.	.
AUG	BDL	BDL	.	.
SEP	BDL	.040 <T	.	.
OCT	BDL	BDL	.	.
NOV	BDL	BDL	.	.
DEC	.090 <T	.120	.	.
MANGANESE (UG/L)			**DET'N LIMIT = 0.05**	**GUIDELINE = 50 (A3)**
MAR	.790	.720	.	.750
APR	1.300	1.300	1.700	3.300
MAY	1.500	1.500	4.300	3.700
JUN	1.200	1.300	3.400	3.700
JUL	1.100	1.100	13.000	7.200
AUG	1.300	1.200	2.200	1.700
SEP	4.300	4.300	6.600	2.600
OCT	3.500	3.500	2.800	1.600
NOV	3.300	3.300	2.300	1.300
DEC	1.700	1.900	2.700	1.400

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY 1990

	WATER TREATMENT PLANT			DISTRIBUTION SYSTEM
	RAW	TREATED	SITE 1	
			STANDING	FREE FLOW
MOLYBDENUM (UG/L)			**DET'N LIMIT = 0.05**	**GUIDELINE = N/A**
MAR	.170 <T	.150 <T	.	.070 <T
APR	.130 <T	.110 <T	.250 <T	.930
MAY	.070 <T	.080 <T	.600	.820
JUN	.110 <T	.120 <T	.160 <T	.750
JUL	BDL	BDL	.530	.730
AUG	.120 <T	.160 <T	.160 <T	.270 <T
SEP	.220 <T	.150 <T	.170 <T	.150 <T
OCT	.130 <T	.160 <T	.150 <T	.130 <T
NOV	.140 <T	.140 <T	.720	.800
DEC	.120 <T	.180 <T	.920	.980
NICKEL (UG/L)			**DET'N LIMIT = 0.20**	**GUIDELINE = 350 (D3)**
MAR	BDL	BDL	.	BDL
APR	BDL	BDL	1.200 <T	BDL
MAY	BDL	BDL	.510 <T	BDL
JUN	BDL	BDL	BDL	BDL
JUL	.630 <T	1.200 <T	2.100	2.000 <T
AUG	.570 <T	BDL	1.300 <T	.820 <T
SEP	BDL	BDL	1.600 <T	BDL
OCT	2.100	2.200	3.800	2.500
NOV	BDL	BDL	.360 <T	BDL
DEC	BDL	BDL	BDL	BDL
LEAD (UG/L)			**DET'N LIMIT = 0.05**	**GUIDELINE = 10. (A1)**
MAR	.060 <T	.100 <T	.	.470 <T
APR	BDL	.080 <T	4.800	.340 <T
MAY	.060 <T	.320 <T	3.500	.510
JUN	.100 <T	.100 <T	3.400	.510
JUL	BDL	BDL	4.900	.500 <T
AUG	BDL	.130 <T	3.600	.740
SEP	BDL	.090 <T	3.700	.480 <T
OCT	.100 <T	.080 <T	3.500	.540
NOV	.070 <T	.060 <T	2.300	.340 <T
DEC	.240 <T	.230 <T	2.500	.390 <T
ANTIMONY (UG/L)			**DET'N LIMIT = 0.05**	**GUIDELINE = 146 (D4)**
MAR	.370 <T	.330 <T	.	.380 <T
APR	.430 <T	.340 <T	.670	.320 <T
MAY	.240 <T	.350 <T	.560	.250 <T
JUN	.310 <T	.280 <T	.890	.380 <T
JUL	.390 <T	.400 <T	.670	.490 <T
AUG	.400 <T	.330 <T	.760	.280 <T
SEP	.400 <T	.240 <T	.600	.280 <T
OCT	.360 <T	.360 <T	.660	.370 <T
NOV	.360 <T	.280 <T	.430 <T	.320 <T
DEC	.530	.730	.740	.460 <T

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY 1990

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM	
	RAW	TREATED	SITE 1	
			STANDING	FREE FLOW
SELENIUM (UG/L)			**DET'N LIMIT = 1.00**	**GUIDELINE = 10 (A1)**
MAR	1.100 <T	2.700 <T	.	1.500 <T
APR	1.600 <T	1.100 <T	1.200 <T	1.200 <T
MAY	2.400 <T	1.100 <T	2.200 <T	1.200 <T
JUN	1.300 <T	2.100 <T	1.100 <T	BDL
JUL	1.300 <T	1.500 <T	1.800 <T	BDL
AUG	1.100 <T	1.800 <T	3.600 <T	1.100 <T
SEP	1.200 <T	1.800 <T	1.300 <T	1.100 <T
OCT	1.300 <T	1.500 <T	1.800 <T	2.000 <T
NOV	BDL	1.300 <T	BDL	BDL
DEC	1.300 <T	BDL	BDL	BDL
STRONTIUM (UG/L)			**DET'N LIMIT = 0.10**	**GUIDELINE = N/A**
MAR	150.000	150.000	.	150.000
APR	160.000	160.000	170.000	220.000
MAY	150.000	150.000	170.000	190.000
JUN	150.000	150.000	150.000	200.000
JUL	140.000	140.000	170.000	190.000
AUG	140.000	140.000	140.000	140.000
SEP	150.000	150.000	150.000	140.000
OCT	150.000	150.000	160.000	150.000
NOV	140.000	140.000	200.000	190.000
DEC	160.000	160.000	230.000	220.000
TITANIUM (UG/L)			**DET'N LIMIT = 0.50**	**GUIDELINE = N/A**
MAR	13.000	14.000	.	13.000
APR	14.000	14.000	14.000	9.000
MAY	24.000	25.000	21.000	20.000
JUN	21.000	22.000	24.000	18.000
JUL	21.000	23.000	22.000	21.000
AUG	17.000	17.000	17.000	15.000
SEP	22.000	24.000	23.000	23.000
OCT	6.100	6.700	6.600	6.600
NOV	12.000	13.000	9.100	8.300
DEC	15.000	17.000	13.000	11.000
THALLIUM (UG/L)			**DET'N LIMIT = 0.05**	**GUIDELINE = 13 (D4)**
MAR	BDL	BDL	.	BDL
APR	BDL	BDL	.060 <T	BDL
MAY	BDL	BDL	BDL	BDL
JUN	BDL	BDL	BDL	BDL
JUL	BDL	BDL	BDL	BDL
AUG	BDL	BDL	BDL	BDL
SEP	BDL	BDL	BDL	BDL
OCT	BDL	BDL	BDL	BDL
NOV	BDL	BDL	BDL	BDL
DEC	BDL	BDL	BDL	BDL

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY 1990

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM	
	RAW	TREATED	SITE 1	
			STANDING	FREE FLOW
URANIUM (UG/L)			DET'N LIMIT = 0.05	GUIDELINE = 100 (A1)
MAR	.420 <T	.450 <T	.	.480 <T
APR	.460 <T	.490 <T	.650	1.600
MAY	.400 <T	.460 <T	.820	1.100
JUN	.430 <T	.420 <T	.500 <T	1.100
JUL	.430 <T	.420 <T	.780	.930
AUG	.440 <T	.410 <T	.460 <T	.610
SEP	.470 <T	.470 <T	.550	.490 <T
OCT	.470 <T	.470 <T	.520	.480 <T
NOV	.440 <T	.460 <T	1.000	1.100
DEC	.420 <T	.440 <T	1.300	1.400
VANADIUM (UG/L)			DET'N LIMIT = 0.05	GUIDELINE = N/A
MAR	.230 <T	.400 <T	.	.410 <T
APR	1.000	1.300	1.200	.320 <T
MAY	.240 <T	.210 <T	.220 <T	.270 <T
JUN	BDL	BDL	.070 <T	.170 <T
JUL	.290 <T	.270 <T	.330 <T	.350 <T
AUG	.210 <T	.190 <T	.180 <T	.160 <T
SEP	.180 <T	.140 <T	.240 <T	.190 <T
OCT	.350 <T	.340 <T	.390 <T	.370 <T
NOV	BDL	BDL	.120 <T	.090 <T
DEC	.160 <T	.180 <T	.250 <T	.220 <T
ZINC (UG/L)			DET'N LIMIT = 0.20	GUIDELINE = 5000 (A3)
MAR	1.800 <T	1.800 <T	.	8.300
APR	2.600	2.800	99.000	4.200
MAY	2.000 <T	8.100	61.000	6.300
JUN	2.800	2.600	29.000	5.900
JUL	2.400	2.500	58.000	5.100
AUG	2.100	2.400	69.000	7.200
SEP	3.100	3.000	60.000	7.900
OCT	2.400	1.700 <T	60.000	5.900
NOV	3.600	3.500	54.000	5.900
DEC	5.300	2.700	38.000	5.900

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY 1990

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM	
	RAW	TREATED	SITE 1	
			STANDING	FREE FLOW
PESTICIDES & PCB ATRAZINE (NG/L)			DET'N LIMIT = 50	GUIDELINE = 60000 (A2)
MAR	BDL	BDL	.	.
APR	BDL	BDL	.	.
MAY	BDL	BDL	.	.
JUN	BDL	BDL	.	.
JUL	75.000 <T	BDL	.	.
AUG	BDL	BDL	.	.
SEP	BDL	BDL	.	.
OCT	BDL	IIS	.	.
NOV	BDL	BDL	.	.
DEC	BDL	80.000 <T	.	.

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY 1990

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM		
	RAW	TREATED	SITE 1		
			STANDING	FREE FLOW	
PHENOLICS (UG/L PHENOLICS)			DET'N LIMIT = .200	GUIDELINE = 2	(A4)
MAR	.600 <T	BDL	.	.	
APR	1.000	BDL	.	.	
MAY	BDL	.400 <T	.	.	
JUN	BDL	BDL	.	.	
JUL	.400 <T	BDL	.	.	
AUG	.800 <T	BDL	.	.	
SEP	BDL	BDL	.	.	
OCT	BDL	BDL	.	.	
NOV	.800 <T	.600 <T	.	.	
DEC	.600 <T	BDL	.	.	

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY 1990

	WATER TREATMENT PLANT			DISTRIBUTION SYSTEM
	RAW	TREATED	SITE 1	
			STANDING	FREE FLOW
VOLATILES				
BENZENE (UG/L)			DET'N LIMIT = 0.05	GUIDELINE = 5 (A1)
MAR	BDL	BDL	.	BDL
APR	BDL	.100 <T	.	.050 <T
MAY	BDL	.100 <T	.	BDL
JUN	BDL	.050 <T	.	BDL
JUL	BDL	.050 <T	.	IEF
AUG	BDL	BDL	.	BDL
SEP	BDL	BDL	.	BDL
OCT	BDL	BDL	.	BDL
NOV	BDL	BDL	.	BDL
DEC	BDL	BDL	.	BDL
TOLUENE (UG/L)			DET'N LIMIT = 0.05	GUIDELINE = 24 (A3)
MAR	BDL	BDL	.	BDL
APR	BDL	BDL	.	BDL
MAY	BDL	BDL	.	.200 <T
JUN	BDL	BDL	.	.100 <T
JUL	BDL	BDL	.	IEF
AUG	BDL	BDL	.	BDL
SEP	BDL	BDL	.	BDL
OCT	BDL	BDL	.	BDL
NOV	BDL	BDL	.	BDL
DEC	BDL	BDL	.	BDL
ETHYLBENZENE (UG/L)			DET'N LIMIT = 0.05	GUIDELINE = 2.4 (A3)
MAR	BDL	BDL	.	BDL
APR	BDL	.050 <T	.	BDL
MAY	.100 <T	.200 <T	.	.100 <T
JUN	.050 <T	.150 <T	.	BDL
JUL	BDL	.150 <T	.	IEF
AUG	.100 <T	.100 <T	.	.100 <T
SEP	.050 <T	.150 <T	.	.050 <T
OCT	BDL	BDL	.	BDL
NOV	.050 <T	.100 <T	.	.050 <T
DEC	BDL	BDL	.	BDL
STYRENE (UG/L)			DET'N LIMIT = 0.05	GUIDELINE = 100 (D1)
MAR	.100 <T	BDL	.	BDL
APR	BDL	BDL	.	BDL
MAY	.150 <T	.100 <T	.	.200 <T
JUN	.100 <T	BDL	.	BDL
JUL	BDL	BDL	.	IEF
AUG	.200 <T	BDL	.	.050 <T
SEP	.150 <T	BDL	.	BDL
OCT	.050 <T	BDL	.	BDL
NOV	.100 <T	BDL	.	.050 <T
DEC	BDL	BDL	.	BDL

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY 1990

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM	
	RAW	TREATED	SITE 1	
			STANDING	FREE FLOW
T1,2DICHLOROETHYLENE (UG/L)			DET'N LIMIT = 0.10	GUIDELINE = 70 (D1)
MAR	BDL	BDL	.	BDL
APR	BDL	BDL	.	BDL
MAY	BDL	BDL	.	BDL
JUN	BDL	BDL	.	BDL
JUL	BDL	BDL	.	IEF
AUG	BDL	.100 <T	.	BDL
SEP	.100 <T	.100 <T	.	.100 <T
OCT	BDL	BDL	.	BDL
NOV	BDL	BDL	.	BDL
DEC	BDL	BDL	.	BDL
CHLOROFORM (UG/L)			DET'N LIMIT = 0.10	GUIDELINE = 350 (A1+)
MAR	.500 <T	13.100	.	9.300
APR	.400 <T	17.400	.	79.600
MAY	.700 <T	12.600	.	88.800
JUN	.900 <T	16.800	.	94.000
JUL	1.500	15.000	.	IEF
AUG	1.600	16.500	.	78.700
SEP	1.400	11.300	.	11.200
OCT	1.000	10.200	.	10.800
NOV	.700 <T	8.000	.	87.700
DEC	.400 <T	5.700	.	100.600
111, TRICHLOROETHANE (UG/L)			DET'N LIMIT = 0.02	GUIDELINE = 200 (D1)
MAR	.200 <T	.180 <T	.	.200 <T
APR	.140 <T	.140 <T	.	BDL
MAY	.220	.180 <T	.	BDL
JUN	.180 <T	.160 <T	.	BDL
JUL	.200 <T	.220	.	IEF
AUG	.200 <T	.200 <T	.	BDL
SEP	.220	.220	.	.200
OCT	.160 <T	.160 <T	.	.160 <T
NOV	.160 <T	.160 <T	.	BDL
DEC	.160 <T	.160 <T	.	BDL
TRICHLOROETHYLENE (UG/L)			DET'N LIMIT = 0.10	GUIDELINE = 50 (A1)
MAR	15.800	15.000	.	14.600
APR	16.400	16.100	.	.300 <T
MAY	16.000	15.700	.	.600 <T
JUN	14.000	13.300	.	.300 <T
JUL	16.700	18.700	.	IEF
AUG	16.500	17.200	.	4.400
SEP	22.700	23.900	.	22.800
OCT	17.900	18.800	.	19.800
NOV	18.100	18.500	.	.200 <T
DEC	15.600	14.700	.	.200 <T

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY 1990

	WATER TREATMENT PLANT			DISTRIBUTION SYSTEM	
	RAW	TREATED	SITE 1		
			STANDING	FREE FLOW	
DICHLOROBROMOMETHANE (UG/L)			**DET'N LIMIT = 0.05**	**GUIDELINE = 350 (A1+)**	
MAR	.150 <T	9.700	.	8.300	
APR	.100 <T	13.200	.	11.150	
MAY	.100 <T	9.150	.	9.700	
JUN	.100 <T	11.600	.	10.100	
JUL	.150 <T	11.300	.	IEF	
AUG	.100 <T	10.600	.	15.100	
SEP	.100 <T	8.950	.	9.100	
OCT	.100 <T	9.400	.	9.350	
NOV	.100 <T	8.250	.	9.700	
DEC	BDL	6.950	.	10.950	
112 TRICHLOROETHANE (UG/L)			**DET'N LIMIT = 0.05**	**GUIDELINE = .6 (D4)**	
MAR	BDL	BDL	.	BDL	
APR	BDL	BDL	.	BDL	
MAY	BDL	.100 <T	.	BDL	
JUN	BDL	BDL	.	BDL	
JUL	BDL	BDL	.	IEF	
AUG	BDL	BDL	.	BDL	
SEP	BDL	BDL	.	BDL	
OCT	BDL	BDL	.	BDL	
NOV	BDL	BDL	.	BDL	
DEC	BDL	BDL	.	BDL	
CHLORODIBROMOMETHANE (UG/L)			**DET'N LIMIT = 0.10**	**GUIDELINE = 350 (A1+)**	
MAR	.200 <T	6.900	.	6.200	
APR	BDL	8.400	.	.600 <T	
MAY	BDL	6.200	.	.800 <T	
JUN	BDL	6.400	.	.800 <T	
JUL	BDL	7.700	.	IEF	
AUG	BDL	6.600	.	3.100	
SEP	BDL	5.900	.	6.200	
OCT	BDL	7.000	.	6.000	
NOV	BDL	6.600	.	.600 <T	
DEC	BDL	6.000	.	.800 <T	
T-CHLOROETHYLENE (UG/L)			**DET'N LIMIT = 0.05**	**GUIDELINE = 5 (D1)**	
MAR	.150 <T	.150 <T	.	.150 <T	
APR	.100 <T	.100 <T	.	BDL	
MAY	BDL	.100 <T	.	.050 <T	
JUN	.150 <T	.100 <T	.	BDL	
JUL	.150 <T	.150 <T	.	IEF	
AUG	.150 <T	.200 <T	.	.150 <T	
SEP	.200 <T	.200 <T	.	.200 <T	
OCT	.150 <T	.150 <T	.	.150 <T	
NOV	.150 <T	.150 <T	.	BDL	
DEC	.150 <T	.150 <T	.	BDL	

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM DELHI SPRING SUPPLY 1990

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM	
	RAW	TREATED	SITE 1	
			STANDING	FREE FLOW
BROMOFORM (UG/L)			DET'N LIMIT = 0.20	GUIDELINE = 350 (A1+)
MAR	BDL	1.200 <T	.	1.200 <T
APR	BDL	1.000 <T	.	BDL
MAY	BDL	.800 <T	.	BDL
JUN	BDL	.600 <T	.	BDL
JUL	BDL	1.000 <T	.	IEF
AUG	BDL	1.000 <T	.	.200 <T
SEP	BDL	1.200 <T	.	1.200 <T
OCT	BDL	1.200 <T	.	1.000 <T
NOV	BDL	1.200 <T	.	BDL
DEC	BDL	1.400 <T	.	BDL
CHLOROBENZENE (UG/L)			DET'N LIMIT = 0.10	GUIDELINE = 1510 (D3)
MAR	BDL	BDL	.	BDL
APR	BDL	BDL	.	BDL
MAY	.200 <T	BDL	.	BDL
JUN	BDL	BDL	.	BDL
JUL	BDL	BDL	.	IEF
AUG	BDL	BDL	.	BDL
SEP	BDL	BDL	.	BDL
OCT	BDL	BDL	.	BDL
NOV	BDL	BDL	.	BDL
DEC	BDL	BDL	.	BDL
TOTAL TRIHALOMETHANES (UG/L)			DET'N LIMIT = 0.50	GUIDELINE = 350 (A1)
MAR	.950 <T	30.900	.	25.050
APR	BDL	42.900	.	91.350
MAY	.800 <T	28.750	.	99.300
JUN	1.000 <T	35.400	.	104.900
JUL	1.800 <T	35.000	.	IEF
AUG	1.750 <T	34.750	.	97.050
SEP	1.550 <T	27.200	.	27.600
OCT	1.150 <T	27.750	.	27.100
NOV	.750 <T	24.100	.	98.050
DEC	BDL	20.200	.	112.350

TRACE LEVELS OF TOLUENE ARE LABORATORY ARTIFACTS DERIVED FROM THE ANALYTICAL METHODOLOGY.

TRACE LEVELS OF STYRENE ARE CONSIDERED TO BE LABORATORY ARTIFACTS RESULTING FROM THE LABORATORY SHIPPING CONTAINERS.

TABLE 6
DRINKING WATER SURVEILLANCE PROGRAM 1990

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
BACTERIOLOGICAL			
FECAL COLIFORM MEMBRANE FILTRATION	CT/100ML	0	0 (A1)
STANDARD PLATE COUNT MEMBRANE FILT.	CT/ML	0	500/ML (A3)
TOTAL COLIFORM BACKGROUND MF	CT/100ML	0	N/A
TOTAL COLIFORM MEMBRANE FILTRATION	CT/100ML	0	5/100ML (A1)
CHEMISTRY (FLD)			
FIELD COMBINED CHLORINE RESIDUAL	MG/L	0	N/A
FIELD TOTAL CHLORINE RESIDUAL	MG/L	0	N/A
FIELD FREE CHLORINE RESIDUAL	MG/L	0	N/A
FIELD PH	DIMNSLESS	N/A	6.5-8.5 (A3)
FIELD TEMPERATURE	DEG.C	N/A	15.0 (A3)
FIELD TURBIDITY	FTU	N/A	1.0 (A1)
CHEMISTRY (LAB)			
ALKALINITY	MG/L	0.2	30-500 (A3)
AMMONIUM TOTAL	MG/L	0.002	0.05 (F2)
CALCIUM	MG/L	0.2	100 (F2)
CHLORIDE	MG/L	0.2	250 (A3)
COLOUR	TCU	0.5	5.0 (A3)
CONDUCTIVITY	UMHO/CM	1.0	400 (F2)
CYANIDE	MG/L	0.001	0.2 (A1)
DISSOLVED ORGANIC CARBON	MG/L	0.1	5.0 (A3)
FLUORIDE	MG/L	0.01	2.4 (A1)
HARDNESS	MG/L	0.5	80-100 (A4)
LANGELIERS INDEX	DIMNSLESS	N/A	N/A
MAGNESIUM	MG/L	0.1	30.0 (F2)
NITRITE	MG/L	0.001	1.0 (A1)
NITROGEN TOTAL KJELDAHL	MG/L	0.02	N/A
PH	DIMNSLESS	N/A	6.5-8.5 (A4)
PHOSPHORUS FIL REACT	MG/L	0.0005	N/A
PHOSPHORUS TOTAL	MG/L	0.002	0.4 (F2)
SODIUM	MG/L	0.2	200 (A4)
SULPHATE	MG/L	0.2	500 (A3)
TOTAL NITRATES	MG/L	0.005	10.0 (A1)
TURBIDITY	FTU	0.05	1.0 (A1)
CHLOROAROMATICS			
123 TRICHLOROBENZENE	NG/L	5.0	N/A
1234 TETRACHLOROBENZENE	NG/L	1.0	N/A
1235 TETRACHLOROBENZENE	NG/L	1.0	N/A
124 TRICHLOROBENZENE	NG/L	5.0	10000 (I)
1245-TETRACHLOROBENZENE	NG/L	1.0	38000 (D4)
135 TRICHLOROBENZENE	NG/L	5.0	N/A
236 TRICHLOROTOLUENE	NG/L	5.0	N/A
245 TRICHLOROTOLUENE	NG/L	5.0	N/A
26A TRICHLOROTOLUENE	NG/L	5.0	N/A
HEXACHLOROBENZENE	NG/L	1.0	10 (C1)
HEXACHLOROBUTADIENE	NG/L	1.0	450 (D4)
HEXACHLOROCYCLOPENTADIENE	NG/L	5.0	206000 (D4)
HEXACHLOROETHANE	NG/L	1.0	1900 (D4)
OCTACHLOROSTYRENE	NG/L	1.0	N/A
PENTACHLOROBENZENE	NG/L	1.0	74000 (D4)
CHLOROPHENOLS			
234 TRICHLOROPHENOL	NG/L	100.0	N/A
2345 TETRACHLOROPHENOL	NG/L	20.0	N/A
2356 TETRACHLOROPHENOL	NG/L	10.0	N/A

TABLE 6
DRINKING WATER SURVEILLANCE PROGRAM 1990

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
245 TRICHLOROPHENOL	NG/L	100.0	2600000 (D4)
246 TRICHLOROPHENOL	NG/L	20.0	5000 (A1)
PENTACHLOROPHENOL	NG/L	10.0	60000 (A1)
METALS			
ALUMINUM	UG/L	0.10	100 (A4)
ANTIMONY	UG/L	0.05	146 (D4)
ARSENIC	UG/L	0.10	25 (A1)
BARIUM	UG/L	0.05	1000 (A2)
BERYLLIUM	UG/L	0.05	6800 (D4)
BORON	UG/L	2.00	5000 (A1)
CADMIUM	UG/L	0.05	5 (A1)
CHROMIUM	UG/L	0.50	50 (A1)
COBALT	UG/L	0.02	N/A
COPPER	UG/L	0.50	1000 (A3)
IRON	UG/L	6.00	300 (A3)
LEAD	UG/L	0.05	10 (A1)
MANGANESE	UG/L	0.05	50 (A3)
MERCURY	UG/L	0.02	1 (A1)
MOLYBDENUM	UG/L	0.05	N/A
NICKEL	UG/L	0.20	350 (D3)
SELENIUM	UG/L	1.00	10 (A1)
SILVER	UG/L	0.05	50 (A1)
STRONTIUM	UG/L	0.10	N/A
THALLIUM	UG/L	0.05	13 (D4)
TITANIUM	UG/L	0.50	N/A
URANIUM	UG/L	0.05	100 (A1)
VANADIUM	UG/L	0.05	N/A
ZINC	UG/L	0.20	5000 (A3)
PAH			
ANTHRACENE	NG/L	1.0	N/A
BENZO(A) ANTHRACENE	NG/L	20.0	N/A
BENZO(A) PYRENE	NG/L	5.0	10.0 (A1)
BENZO(B) CHRYSENE	NG/L	2.0	N/A
BENZO(B) FLUORANTHENE	NG/L	10.0	N/A
BENZO(E) PYRENE	NG/L	50.0	N/A
BENZO(G,H,I) PERYLENE	NG/L	20.0	N/A
BENZO(K) FLUORANTHENE	NG/L	1.0	N/A
CHRYSENE	NG/L	50.0	N/A
CORONENE	NG/L	10.0	N/A
DIBENZO(A,H) ANTHRACENE	NG/L	10.0	N/A
DIMETHYL BENZO(A) ANTHRACENE	NG/L	5.0	N/A
FLUORANTHENE	NG/L	20.0	42000.0 (D4)
INDENO(1,2,3-C,D) PYRENE	NG/L	20.0	N/A
PERYLENE	NG/L	10.0	N/A
PHENANTHRENE	NG/L	10.0	N/A
PYRENE	NG/L	20.0	N/A
PESTICIDES & PCB			
ALACHLOR (LASSO)	NG/L	500.0	5000 (A2)
ALDRIN	NG/L	1.0	700 (A1)
ALPHA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	700 (G)
ALPHA CHLORDANE	NG/L	2.0	7000 (A1)
AMETRINE	NG/L	50.0	300000 (D3)
ATRATONE	NG/L	50.0	N/A
ATRAZINE	NG/L	50.0	60000 (A2)
DES ETHYL ATRAZINE	NG/L	200.0	60000 (A2)
BETA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	300 (G)
CYANAZINE (BLADEX)	NG/L	100.0	10000 (A2)
O,P-DDD	NG/L	5.0	10 (I)
DIELDRIN	NG/L	2.0	700 (A1)
ENDOSULFAN 1 (THIODAN I)	NG/L	2.0	74000 (D4)
ENDOSULFAN 2 (THIODAN II)	NG/L	5.0	74000 (D4)

TABLE 6
DRINKING WATER SURVEILLANCE PROGRAM 1990

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
ENDOSULFAN SULPHATE (THIODAN SULPHATE)	NG/L	5.0	N/A
ENDRIN	NG/L	5.0	1600 (D3)
GAMMA CHLORDANE	NG/L	2.0	7000 (A1)
HEPTACHLOR	NG/L	1.0	3000 (A1)
HEPTACHLOR EPOXIDE	NG/L	1.0	3000 (A1)
LINDANE (GAMMA BHC)	NG/L	1.0	4000 (A1)
METHOXYCHLOR	NG/L	5.0	900000 (A1)
METOLACHLOR	NG/L	500.0	50000 (A2)
METRIBUZIN (SENCOR)	NG/L	100.0	80000 (A1)
MIREX	NG/L	5.0	N/A
P,P-DDD	NG/L	5.0	N/A
O,P-DDT	NG/L	5.0	30000 (A1)
OXYCHLORDANE	NG/L	2.0	N/A
PCB	NG/L	20.0	3000 (A2)
PPDDE	NG/L	1.0	30000 (A1)
PPDDT	NG/L	5.0	30000 (A1)
PROMETONE	NG/L	50.0	52500 (D3)
PROMETRYNE	NG/L	50.0	1000 (A2)
PROPAZINE	NG/L	50.0	700000 (D3)
SIMAZINE	NG/L	50.0	10000 (A2)
D-ETHYL SIMAZINE	NG/L	200.0	10000 (A2)
TOXAPHENE	NG/L	500.0	5000 (A1)
PHENOLICS			
PHENOLICS (UNFILTERED REACTIVE)	UG/L	0.2	2 (A4)
SPECIFIC PESTICIDES			
2,4 D PROPIONIC ACID	NG/L	100.	N/A
2,4,5-TRICHLOROPHENOXY ACETIC ACID	NG/L	50.	280000 (A1)
2,4-DICHLOROBUTYRIC ACID (2,4-D)	NG/L	100.	100000 (A1)
24-DICHLOROPHENOXYBUTYRIC ACID (24-DB)	NG/L	200.	18000 (B3)
BUTYLATE (SUTAN)	NG/L	2000.	245000 (D3)
CARBARYL (SEVIN)	NG/L	200.	90000 (A1)
CARBOFURAN	NG/L	2000.	90000 (A1)
CHLORPYRIFOS (DURSBAN)	NG/L	20.	N/A
CICP (CHLORPROPHAM)	NG/L	2000.	350000 (G)
DIALLATE	NG/L	2000.	N/A
DIAZINON	NG/L	20.	20000 (A1)
DICAMBA	NG/L	50.	120000 (A1)
DICHLOROVOS	NG/L	20.	N/A
EPTAM	NG/L	2000.	N/A
ETHION	NG/L	20.	35000 (G)
IPC	NG/L	2000.	N/A
MALATHION	NG/L	20.	190000 (A1)
METHYL PARATHION	NG/L	50.	7000 (B3)
METHYLTRITHION	NG/L	20.	N/A
MEVINPHOS	NG/L	20.	N/A
PARATHION	NG/L	20.	50000 (A1)
PHORATE (THIMET)	NG/L	20.	2000 (A2)
PROPOXUR (BAYGON)	NG/L	2000.	140000 (D3)
RELDAN	NG/L	20.	N/A
RONNEL	NG/L	20.	N/A
SILVEX (2,4,5-TP)	NG/L	20.	10000 (A1)
VOLATILES			
1,1 DICHLOROETHANE	UG/L	0.10	N/A
1,1 DICHLOROETHYLENE	UG/L	0.10	7 (D1)
1,2 DICHLOROBENZENE	UG/L	0.05	200 (A1)
1,2 DICHLOROETHANE	UG/L	0.05	5 (A1)

TABLE 6
DRINKING WATER SURVEILLANCE PROGRAM 1990

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
1,2 DICHLOROPROPANE	UG/L	0.05	5 (D1)
1,3 DICHLOROBENZENE	UG/L	0.10	3750 (D3)
1,4 DICHLOROBENZENE	UG/L	0.10	5 (A1)
111, TRICHLOROETHANE	UG/L	0.02	200 (D1)
112 TRICHLOROETHANE	UG/L	0.05	0.6 (D4)
1122 TETRACHLOROETHANE	UG/L	0.05	0.17(D4)
BENZENE	UG/L	0.05	5 (A1)
BROMOFORM	UG/L	0.20	350 (A1+)
CARBON TETRACHLORIDE	UG/L	0.20	5 (A1)
CHLOROBENZENE	UG/L	0.10	1510 (D3)
CHLORODIBROMOMETHANE	UG/L	0.10	350 (A1+)
CHLOROFORM	UG/L	0.10	350 (A1+)
DICHLOROBROMOMETHANE	UG/L	0.05	350 (A1+)
ETHLYENE DIBROMIDE	UG/L	0.05	50 (D1)
ETHYLBENZENE	UG/L	0.05	2.4 (A3)
M-XYLENE	UG/L	0.10	300 (A3*)
METHYLENE CHLORIDE	UG/L	0.50	50 (A1)
O-XYLENE	UG/L	0.05	300 (A3*)
P-XYLENE	UG/L	0.10	300 (A3*)
STYRENE	UG/L	0.05	100 (D1)
TETRACHLOROETHYLENE	UG/L	0.05	5 (D1)
TRANS 1,2 DICHLOROETHYLENE	UG/L	0.10	70 (D1)
TOLUENE	UG/L	0.05	24 (A3)
TOTAL TRIHALOMETHANES	UG/L	0.50	350 (A1)
TRICHLOROETHYLENE	UG/L	0.10	50 (A1)

Appendix A

DRINKING WATER SURVEILLANCE PROGRAM
PROGRAM DESCRIPTION

The Drinking Water Surveillance Program (DWSP) for Ontario monitors drinking water quality at municipal water supply systems. The DWSP Database Management System provides a computerized drinking water quality information system for the supplies monitored. The objectives of the program are to provide:

- immediate, reliable, current information on drinking water quality;
- a flagging mechanism for guideline exceedance;
- a definition of contaminant levels and trends;
- a comprehensive background for remedial action;
- a framework for assessment of new contaminants; and
- an indication of treatment efficiency of plant processes.

PROGRAM

The DWSP officially began in April 1986 and is designed to eventually include all municipal water supplies in Ontario. In 1990, 76 systems were being monitored. Water supply locations have been prioritized for surveillance based primarily on criteria such as population density, probability of contamination and geographical location.

An ongoing assessment of future monitoring requirements at each location will be made. Monitoring will continue at the initial locations at an appropriate level and further locations will be phased into the program as resources permit.

A major goal of the program is to collect valid water quality data in context with plant operational characteristics at the time of sampling. As soon as sufficient data have been accumulated and analyzed, both the frequency of sampling and the range of parameters may be adjusted accordingly.

Assessments are carried out at all locations prior to initial sampling, in order to acquire complete plant process and distribution system details and to designate (and retrofit if necessary) all sampling systems and locations. This ensures that the sampled water is a reflection of the water itself.

Samples are taken of raw (ambient water) and treated water at the treatment plant and of consumer's tap water in the distribution system. In order to determine possible effects of distribution on water quality,

both standing and free flow water in old and new sections of the distribution system are sampled. Sampling is carried out by operational personnel who have been trained in applicable procedures.

Comprehensive standardized procedures and field test kits are supplied to sampling personnel. This ensures that samples are taken and handled according to standard protocols and that field testing will supply reliable data. All field and laboratory analyses are carried out using "approved documented procedures". Most laboratory analyses are carried out by the Ministry of Environment (MOE), Laboratory Services Branch. Radionuclides are analyzed by the Ministry of Labour.

DATA REPORTING MECHANISM

When the analytical results are transferred from the MOE laboratory into the DWSP system, printouts of the completed analyses are sent to the MOE District Officer, the appropriate operational staff and are also retained by the DWSP unit.

PROGRAM INPUTS AND OUTPUTS

There are four major inputs and four major outputs in the program.

Program Input - Plant and Distribution System Description

The system description includes plant specific non-analytical information acquired through a questionnaire and an initial plant visit. During the initial assessment of the plant and distribution system, questionnaire content is verified and missing information added. It is intended that all data be kept current with scheduled annual updates.

The Plant and Distribution System Description consists of the following seven components:

1. PROCESS COMPONENT INVENTORY
All physical and chemical processes to which the water is subjected, from the intake pipe to the consumers' tap (where possible), are documented. These include: process type, general description of physical structures, material types, sizes, and retention time for each process within the plant. The processes may be as simple as transmission or as complex as carbon adsorption.

2. TREATMENT CHEMICALS
Chemicals used in the treatment processes, their function, application point, supplier and brand-name are recorded. Chemical dosages applied on the day of sampling are recorded in DWSP.

3. PROCESS CONTROL MEASUREMENTS

Documentation of in-plant monitoring of process parameters (eg. turbidity, chlorine residuals, pH, aluminum residuals) including methods used, monitoring locations and frequency is contained in this section. Except for the recorded Field Data, in-plant monitoring results are not retained in DWSP but are retained by the water treatment plant personnel.

4. DESIGN FLOW AND RETENTION TIME

Hydraulic capacity, designed and actual, is noted here. Retention time (the time that a block of water is retained in the plant) is also noted. Maximum, minimum and average flow, as well as a record of the flow rate on the day of sampling, are recorded in DWSP.

5. DISTRIBUTION SYSTEM DESCRIPTION

This area includes the storage and transmission characteristics of the distribution system after the water leaves the plant.

6. SAMPLING SYSTEM

Each plant is assessed for its adequacy in terms of the sampling of bacteriological, organic and inorganic parameters. Prime considerations in the assessment and design of the sampling system are:

i/ the sample is an accurate representation of the actual water condition, eg. raw water has had no chemical treatment;

ii/ the water being sampled is not being modified by the sampling system;

iii/ the sample tap must be in a clean area of the plant, preferably a lab area; and

iv/ the sample lines must be organically inert (no plastic, ideally stainless steel).

It is imperative that the sampled water be a reflection not of the sampling system but of the water itself.

The sampling system documentation includes: origin of the water; date sampling was initiated; size, length and material type (intake, discharge and tap); pump characteristics (model, type, capacity); and flow rate.

7. PERSONNEL

This section contains the names, addresses and phone numbers of current plant management and operational staff, distribution system management and operational staff, Medical Officer of Health and appropriate MOE personnel associated with the plant.

Program Input - Field Data

The second major input to DWSP is field data. Field data is collected at the plant and from the distribution system sites on the day of sampling. Field data consists of general operating conditions and the results of testing for field parameters. General operating conditions include chemicals used, dosages, flow and retention time on the day of sampling, as well as, monthly maximum, minimum and average flows. Field parameters include turbidity, chlorine residuals (free, combined and total), temperature and pH. These parameters are analyzed according to standardized DWSP protocols to allow for interplant comparison.

Program Input - Laboratory Analytical Data

The third major input to DWSP is Laboratory Analytical Data. Samples gathered from the raw, treated and distribution sampling sites are analyzed for the presence of approximately 180 parameters at a frequency of two to twelve times per year. Sixty-five percent of the parameters are organic. Parameters measured may have health or aesthetic implications when present in drinking water. Many of the parameters may be used in the treatment process or may be treatment by-products. Due to the nature of certain analytical instruments, parameters may be measured in a "scan" producing some results for parameters that are not on the DWSP priority list, but which may be of interest. The majority of parameters are measured on a routine basis. Those that are technically more difficult and/or costly to analyze, however, are done less frequently. These include Specific Pesticides and Chlorophenols.

Although the parameter list is extensive, additional parameters with the potential to cause health or aesthetic related problems may be added provided reliable analytical and sampling methods exist.

All laboratory generated data is derived from standardized, documented analytical protocols. The analytical method is an integral part of the data and as methods change, notation will be made and comparison data documented.

Program Input - Parameter Reference Information

The fourth major input to DWSP is Parameter Reference Information. This is a catalogue of information for each substance analyzed on DWSP. It includes parameter name and aliases, physical and chemical properties, basic toxicology, world-wide health limits, treatment methods and uses. The Parameter Reference Information is computerized and can be accessed through the Query function of the DWSP database. An example is shown in figure 1.

Program output - Query

All DWSP information is easily accessed through the Query function, therefore, anything from addresses of plant personnel to complete water quality information for a plant's water supply is instantly available. The DWSP computer system makes relatively complex inquiries manageable. A personal password allowing access into the DWSP query mode in all MOE offices is being developed by the DWSP group.

Program Output - Action Alerts

Drinking Water quality in Ontario is evaluated against provincial objectives as outlined in the Ontario Drinking Water Objectives publication. Should the reported level of a substance in treated water exceed the Ontario Drinking Water Objective, an "Action Alert" requiring resampling and confirmation is issued. This assures that operational staff, health authorities and the public are notified as soon as possible of the confirmation of an exceedance and remedial action taken. This report supplies a history of the occurrence of past exceedances at the plant plus a historical summary on the parameter of concern.

In the absence of Ontario Drinking Water Objectives, guidelines/limits from other agencies are used. The Parameter Listing System, published by MOE (ISBN 0-7729-4461-X), catalogues and keeps current guidelines for 650 parameters from agencies throughout the world. If these guidelines are exceeded, the results are flagged and evaluated by DWSP personnel. An "Action Alert" will be issued if warranted.

Program Output - Report Generation

Custom reports can be generated from DWSP to meet MOE Regional needs and to respond to public requests.

Program Output - Annual Reports

It is the practice of DWSP to produce an annual report containing analytical data along with companion plant information.

FIG.1

MOE - DRINKING WATER ASSESSMENT PROGRAM (DWSP)

PARAMETER REFERENCE INFORMATION

BENZENE (B2001P) VOLATILES

CLASS: HEALTH METHOD: P0C0D0 UNIT: µg/L

SOURCE	FROM	TO	METHOD	GUIDELINE	UNIT	NOTE
CAL C	85/01			0.700	µg/L	AL
CDWG C	87/01			5.000	µg/L	MAC
EPA C	87/07			5.000	µg/L	MCL
EPAA C	80/11			6.600	µg/L	AMBIENT **
FERC C	84/05			1.000	µg/L	MCL
WHO C	84/01			10.000	µg/L	GV

DESCRIPTION:

NAME: BENZENE

CAS#: 71-43-2

MOLECULAR FORMULAE: C_6H_6

DETECTION LIMIT: (FOR METHOD POCODO) 0.05 µg/L

SYNONYMS: BENZOL; BENZOLE; COAL NAPHTHA; CARBON OIL (27). CYCLOHEXATRIENE (41).

CHARACTERISTICS: COLOURLESS TO LIGHT-YELLOW, MOBILE, NON-POLAR LIQUID, OF HIGHLY REFRACTIVE NATURE, AROMATIC ODOUR; VAPOURS BURN WITH SMOKING FLAME (30).

PROPERTIES: SOLUBILITY IN WATER: 1780-1800 mg/L AT 25C (41). THRESHOLD ODOUR: 0.5 - 10 PPM IN WATERTHRESHOLD TASTE: 0.5 mg/L IN WATER (39).
ENVIRONMENTAL FATE: MAY BIOACCUMULATE IN LIVING ORGANISMS AND APPEARS TO ACCUMULATE IN ANIMAL TISSUES THAT EXHIBIT A HIGH LIPID CONTENT OR REPRESENT MAJOR METABOLIC SITES, SUCH AS LIVER OR BRAIN; SMALL QUANTITIES EVAPORATE FROM SOILS OR ARE DEGRADED RATHER QUICKLY (80).

SOURCES: COMMERCIAL: PETROLEUM REFINING; SOLVENT RECOVERY; COAL TAR DISTILLATION (39); FOOD PROCESSING AND TANNING INDUSTRIES; COMBUSTION OF CAR EXHAUST.
ENVIRONMENTAL: POSSIBLE SOURCE IS RUNOFF.

USES: DETERGENTS; NYLON; INTERMEDIATE IN PRODUCTION OF OTHER COMPOUNDS, SUCH AS PESTICIDES; SOLVENT FOR EXTRACTION AND RECTIFICATION IN RUBBER INDUSTRY; DEGREASING AND CLEANSING AGENT; GASOLINE.

TOXICITY: RATING: 4 (VERY TOXIC).
ACUTE: IRRITATING TO MUCOUS MEMBRANES; SYMPTOMS INCLUDE RESTLESSNESS, CONVULSIONS, EXCITEMENT, DEPRESSION; DEATH MAY FOLLOW RESPIRATORY FAILURE.
CHRONIC: MAY CAUSE ANAEMIA AND LEUKAEMIA (45); MUTAGENIC.
MODE OF ACTION: CHROMOABERRATION IN LYMPHOCYTE CULTURES.

CARCINOGENICITY: A KNOWN HUMAN CARCINOGEN.

REMOVAL: THE FOLLOWING PROCESSES HAVE BEEN SUCCESSFUL IN REMOVING BENZENE FROM WASTEWATER: GAC ADSORPTION, PRECIPITATION WITH ALUM AND SUBSEQUENT REMOVAL VIA SEDIMENTATION, COAGULATION AND FLOCCULATION, SOLVENT EXTRACTION, OXIDATION

ADDITIONAL PROPERTIES:
MOLECULAR WEIGHT: 78.12
MELTING POINT: 5.5°C (27).
BOILING POINT: 80.1°C (27).
SPECIFIC GRAVITY: 0.8790 AT 20°C (27).
VAPOUR PRESSURE: 100 MM AT 26.1°C (27).
HENRY'S LAW CONSTANT: 0.00555 ATM-M3/MOLE (41).
LOG OCT./WATER PARTITION COEFFICIENT: 1.95 TO 2.13 (39).
CARBON ADSORPTION: K=1.0; 1/N=1.6; R=0.97; PH=5.3 (41)SEDIMENT/WATER PARTITION COEFFICIENT: NO DATA

NOTES: EPA PRIORITY POLLUTANT.

Appendix B

DWSP SAMPLING GUIDELINE

i) Raw and Treated at Plant

General Chemistry	-500 mL plastic bottle (PET 500) -rinse bottle and cap with sample water three times -fill to 2 cm from top
Bacteriological	-220 mL plastic bottle with white seal on cap -do <u>not</u> rinse bottle, preservative has been added -avoid touching bottle neck or inside of cap -fill to top of red label as marked
Metals	-500 mL plastic bottle (PET 500) -rinse bottle and cap three times -fill to 2 cm from top -add 10 drops nitric acid (HNO_3) (**Caution:** HNO_3 is corrosive)
Volatiles (duplicates) (OPOPUP)	-45 mL glass vial with septum (teflon side must be in contact with sample) -do <u>not</u> rinse bottle -fill bottle completely without bubbles
Organics (OWOC), (OWTRI), (OAPAHX)	-1 L amber glass bottle per scan -do <u>not</u> rinse bottle -fill to 2 cm from top -when 'special pesticides' are requested three extra bottles must be filled
Cyanide	-500 mL plastic bottle (PET 500) -rinse bottle and cap three times -fill to 2 cm from top -add 10 drops sodium hydroxide (NaOH) (**Caution:** NaOH is corrosive)

Mercury	-250 mL glass bottle -rinse bottle and cap three times -fill to top of label -add 20 drops each nitric acid (HNO_3) and potassium dichromate ($K_2Cr_2O_7$) (Caution: HNO_3&$K_2Cr_2O_7$ are corrosive)
Phenols	-250 mL glass bottle -do <u>not</u> rinse bottle, preservative has been added -fill to top of label
Radionuclides (as scheduled)	-4 L plastic jug -do <u>not</u> rinse, carrier added -fill to 5 cm from top
Organic Characterization (GC/MS - once per year)	-1 L amber glass bottle; instructions as per organic -250 mL glass bottle -do <u>not</u> rinse bottle -fill completely without bubbles

<u>Steps:</u>

1. Let sampling water tap run for an adequate time to clear the sample line.

2. Record time of day on submission sheet.

3. Record temperature on submission sheet.

4. Fill up all bottles as per instructions.

5. Record chlorine residuals (free, combined and total for treated water only), turbidity and pH on submission sheet.

ii) Distribution Samples (standing water)

General Chemistry	-500 mL plastic bottle (PET 500) -rinse bottle and cap with sample water three times -fill to 2 cm from top
Metals	-500 mL plastic bottle (PET 500) -rinse bottle and cap three times

-fill to 2 cm from top
-add 10 drops nitric acid (HNO_3)
(**Caution:** HNO_3 is corrosive)

Steps:

1. Record time of day on submission sheet.
2. Place bucket under tap and open cold water.
3. Fill to predetermined volume.
4. After mixing the water, record the temperature on the submission sheet.
5. Fill general chemistry and metals bottles.
6. Record chlorine residuals (free, combined and total), turbidity and pH on submission sheet.

iii) Distribution Samples (free flow)

General Chemistry	-500 mL plastic bottle (PET 500) -rinse bottle and cap with sample water three times -fill to 2 cm from top
Bacteriological	-250 mL plastic bottle with white seal on cap -do not rinse bottle, preservative has been added -avoid touching bottle neck or inside of cap -fill to top of red label as marked
Metals	-500 mL plastic bottle (PET 500) -rinse bottle and cap three times -fill to 2 cm from top -add 10 drops nitric acid HNO_3 (**Caution:** HNO_3 is corrosive)

Volatiles (duplicate) (OPOPUP)	-45 mL glass vial with septum (teflon side must be in contact with sample) -do not rinse bottle, preservative has been added -fill bottle completely without bubbles
Organics (OWOC) (OAPAHX)	-1 L amber glass bottle per scan -do not rinse bottle -fill to 2 cm from top

Steps:

1. Record time of day on submission sheet.

2. Let cold water flow for five minutes.

3. Record temperature on submission sheet.

4. Fill all bottles as per instructions.

5. Record chlorine residuals (free, combined and total), turbidity and pH on submission sheet.